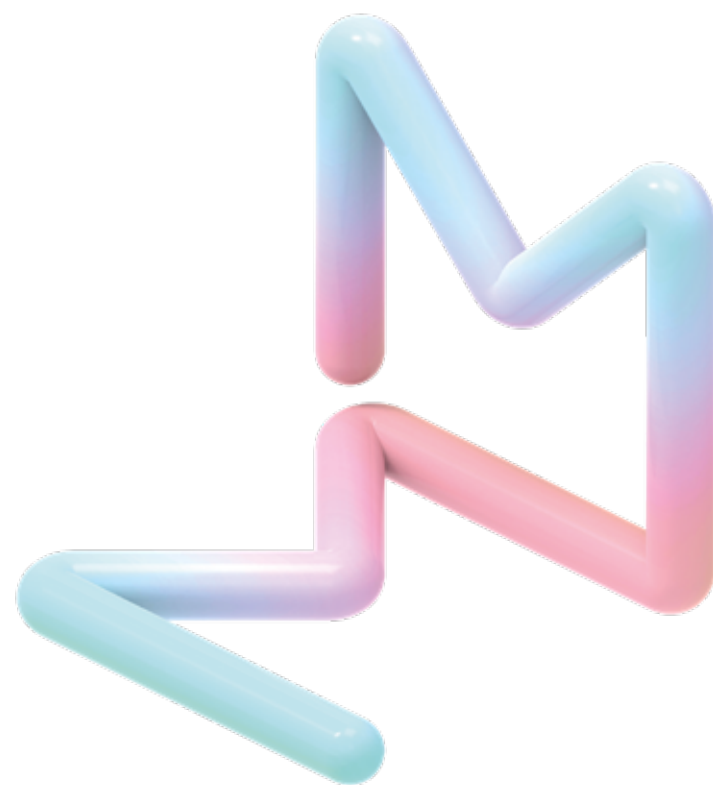




**META.MORF X  
DIGITAL WILD**

M M X X



META.MORF X — DIGITAL WILD

TRONDHEIM INTERNATIONAL BIENNALE FOR ART AND TECHNOLOGY

[WWW.METAMORF.NO](http://WWW.METAMORF.NO)

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## WELCOME

# META.MORF X – DIGITAL WILD

**Meta.Morf X – Digital Wild** leaves the established narratives behind – instead bending and twisting our illusions about digital futures. The purposes of new technologies become twisted, and the obvious challenged. The rationale gets blurry, and we start to see the fascinating contour of a wild future we may be a part of. Outside of the accustomed perceptions, things quickly get wild and surreal – and kinky.

Today we create our technologies in a solutionist manner – neat, clean and ever efficient to serve a purpose. When we get instrumental, we get predictable. The smart algorithms and gadgets we so intimately engage with unfold a foreseeable and calculated reality.

About sixty years into the digital revolution, a predominant share of our global community has now been absorbed by the digital realm. It has come to be our new nature, increasingly intertwined with our bodies and environments. We are architects of artificial ecologies, authors of new and hybrid domains.

Critical discourse is of the essence in a world turned wired and virtual. What does it mean to be human in an era where we are creators of new and pristine worlds?

**Meta.Morf X** – The sixth Trondheim international biennale for art and technology – ventures into the digital wilderness where the foreseeable has escaped, where control is absent, and agendas, purposes, and occupations are progressively evasive.

**Meta.Morf X – Digital Wild** parkerer de etablerte fortellingene om vår digitale fremtid, og ønsker i stedet å vri og vende på forventningene ved å utfordre det forutsigbare og åpenbare. Det rasjonnelle blir utydelig, og vi kan glimtvis se konturen av en villere fremtid der ting fort oppleves vilt og surrealistisk – og kinky.

I dag utvikler vi teknologiene våre for å tjene et spesifikt formål – ryddig, rent og effektivt, rasjonelt. Når vi blir instrumentale, blir vi også forutsigbare. Algoritmene og dingsene vi så tett forholder oss til representerer etter hvert en forutsigbar og kalkulert virkelighet.

Omtrent seksti år inn i den digitale revolusjonen er en overveiende del av vårt globale samfunn nå omsluttet av digital teknologi og praksis. Det digitale har blitt vår nye natur. Vi er blitt arkitekter av kunstige økologier, nye og hybride verdener.

Kritisk diskurs er essensielt i en verden fullstendig oppkoblet og virtuell. Hva innebærer det å være menneske i en tid der vi er skapere av nye og uberørte verdener?

**Meta.Morf X** – den sjette Trondheim internasjonale biennale for kunst og teknologi – reiser ut i den digitale villmarken der det forutsigbare har flyktet, der kontroll er fraværende, og agendaer og formål blir stadig mer flyktig.

Zane Cerpina / Espen Gangvik



### ABOUT META.MORF

Artistic and scientific research are continuously challenging and changing our perspectives on life, often implying new philosophical and existential questions.

Biotechnology, nanotechnology, neuroscience and new communications and computer technologies represent fields that expands the boundaries of artistic practices, practises that in turn may reveal unexplored viewpoints for scientifically based research.

The artist as a conveyor and interpreter of new knowledge and research plays a crucial role for society's ability to maintain an adequate discourse regarding the use of new technologies and scientific advancements.

**Meta.Morf** aim to present artists, writers, scientists and researchers for a broader audience with projects and performances that in various ways helps extending our perspectives on life.

### ABOUT TEKS

**TEKS – Trondheim Electronic Arts Centre** – is the founder and organiser of **Meta.Morf**.

**TEKS** is a non-profit organisation founded in Trondheim in 2002. The organisation is a resource and competence centre that aims to produce and convey techno related art projects within all art disciplines.

**TEKS** initiates and organises artistic productions and projects, works with promotion and education through courses and workshops, and acts as organiser or co-organiser of various techno related cultural initiatives.

**TEKS** is funded by the Arts council Norway, Trondheim Municipality and Trøndelag County Council.

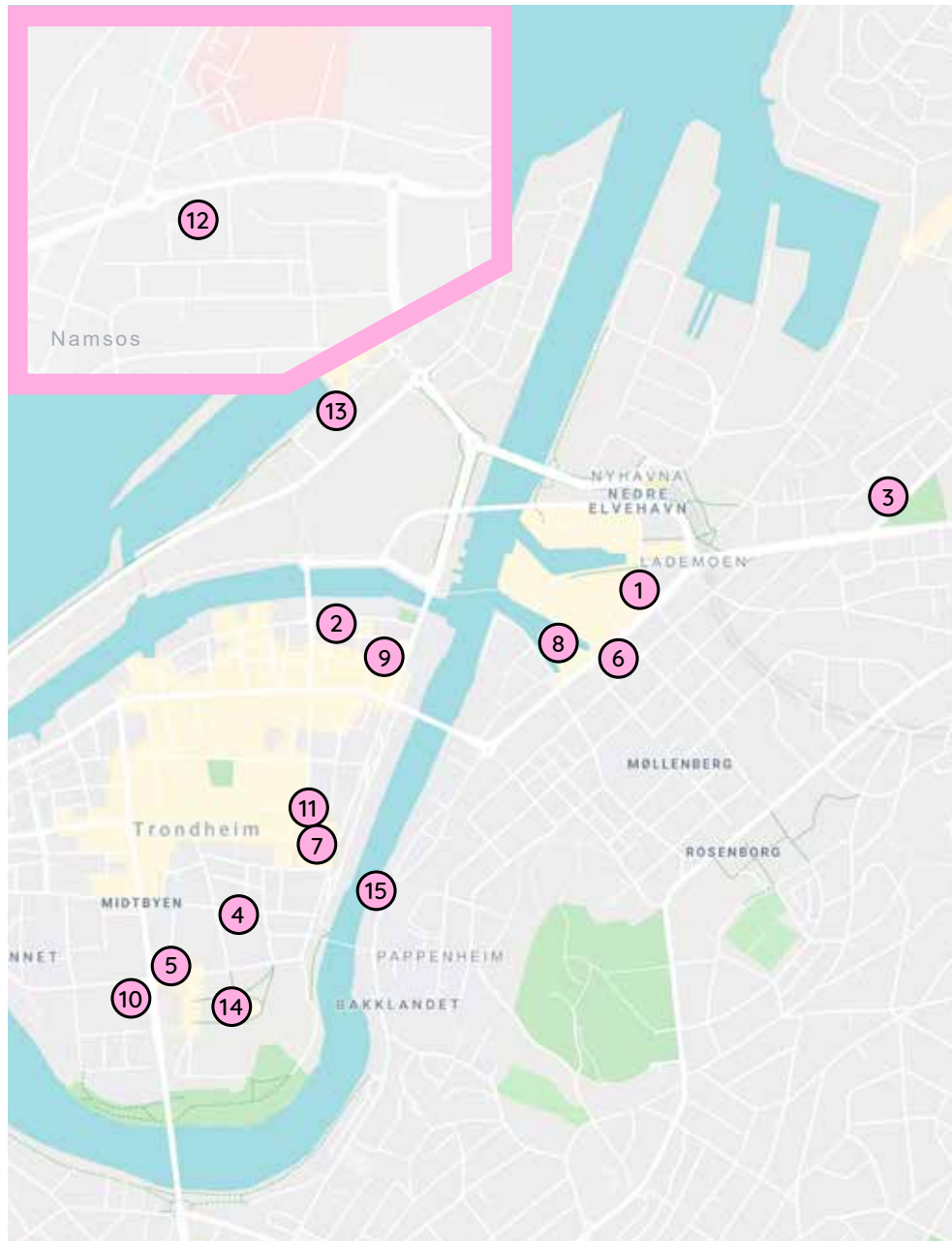
**TEKS** is a member of **PNEK – Production Network for Electronic Arts Norway**.

# TEKS

TRONDHEIM ELECTRONIC ARTS CENTRE

# META.MORF X


## BIENNALE MAP



# META.MORF X

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|---|--|



## META.MORF X - DIGITAL WILD

RACHEL ARMSTRONG / ØYVIND BRANDTSEGG  
& AXEL TIDEMANN / RICHARD DeDOMENICI /  
DISNOVATION.ORG / JURIJ V. KR PAN / ALEX  
MURRAY-LESLIE / DANIEL ROURKE / TONJE  
HESSEN SCHEI / BRUCE STERLING / JASMINA  
TESANOVIC / THE CENTER FOR GENOMIC  
GASTRONOMY / ADAM ZARETSKY

CONFERENCE MARCH 6-7

*DOKKHUSET*

Curator: Zane Cerpina

TEKS

LH | LITTERATURHUSET  
I TRONDHEIM

DOKK huset





# DIGITAL WILD: CONFERENCE

## Introduction by Zane Cerpina

**Digital Wild** Conference bends and twists our ideas and illusions about the digital. What happens outside of the ordinary, problem-oriented scheme of thinking? Where do things get wild, untamed and kinky? How to twist the purposes of technologies? Or better; get rid of the obvious and question the rational?

**Digital Wild** wanders into the digital wilderness, with the safety lock off, out of control and freely roaming about in – or even out of – the technosphere. We need to look into the dark corners where our digital tools have found their own agendas and purposes. We explore the surprising and unforeseen uses of our digital creations.

**Digital Wild** speakers investigate the wild from several perspectives and a wide range of creative disciplines. In a world gone totally wired, we must push the reflections and critical discussions about our relationship to the digital. Digital Wild conference does so by debating the digital technology in a playful manner, pushing us to unsee and unlearn our ordinary perceptions of the digital.

What does it mean to be *Digitally Wild*? What about these examples: What if your parrot falls in love with the virtual voice assistant Alexa? Has technology then gone wrong? Or found its real purpose?

Are you scared of Artificial Intelligence stealing your job in the future? What about AI becoming the artist itself? Or perhaps your partner in the ultimate art-crime that you have been looking for?

Why do all smartphones look the same? They did not always. The sleek, uniform looks of today's technologies are the result of innumerable, wildly looking iterations. What about rewilding them again?

Is the future fashion DNA? Emerging techniques are about to let us genetically modify and design babies. How will emerging anti-aesthetics give your future kid a rather unexpected look?

**Digital Wild** konferansen vrir og vender på våre ideer og illusjoner om det digitale. Hva skjer når vi forlater vårt vanlige, problemorienterte tankesett? Når blir ting ville, utemmede og kinky? Hvordan vri teknologienes vanlige formål? Eller bedre; bli kvitt det åpenbare og stille spørsmål ved det rasjonelle?

**Digital Wild** vandrer rundt i den digitale villmarken, med sikringen av, ute av kontroll og fritt streifende i -eller til og med utenfor- teknosfæren. Konferansen kikker inn i de mørke avkroker der våre digitale verktøy har funnet sine egne agendaer og formål. Vi utforsker den overraskende og uforutsette bruken av våre digitale kreasjoner.

**Digital Wild** deltagere undersøker det ville fra flere perspektiver og et bredt spekter av kreative disipliner. I en verden hvor alt strømmes trådløst må vi presse frem refleksjoner og kritiske diskusjoner om vårt forhold til det digitale. Digital Wild-konferansen gjør nettopp det gjennom å diskutere den digitale teknologien på en lekende måte, og presser oss til å u-se og avlære våre vanlige oppfatninger av det digitale.

Hva betyr det å være *Digital Wild*? Hva med disse eksemplene: se at papegøyen din blir forelsket i den virtuelle stemmeassistenten Alexa? Har teknologien da gått galt? Eller fant den sitt virkelige formål?

Er du redd for at kunstig intelligens skal stjele jobben din i fremtiden? Hva om AI ble kunstneren selv? Eller kanskje partneren din i den ultimative kunst forbrytelsen du alltid har lett etter?

Hvorfor ser alle smarttelefoner like ut? Det gjorde de ikke alltid. Det glatte, ensartede utseendet til dagens teknologier er et resultat av utallige, vilt utseende iterasjoner. Hva med å re-designe dem tilbake?

Er fremtidens mote DNA basert? Nye teknikker lar oss genetisk modifisere og designe babyer. Hvordan vil den fremvoksende anti-estetikk gi ditt fremtidige barn et nytt og gjerne overraskende utseende?

And what if the next cryptocurrency came fully analogous and even knitted? How to turn the unreal into real coinage, disrupting the complex concepts of technological black boxes, letting users pocket actual authority over the digital?

**Digital Wild** Conference gathers a wide selection of experts to take us on a tour between our wildest digital dreams and darkest technological nightmares.

Og hva om den neste kryptovaluta var helt analog? Kanskje til og med strikket? Hvordan gjøre det uvirkelige til ekte mynt, forstyrre de sorte boksens komplekse mekanismer, for å la brukerne putte faktisk autoritet over det digitale ned i lomma?

**Digital Wild** konferansen samler et bredt utvalg av eksperter for å ta oss med på en reise mellom våre villeste digitale drømmer og mørkeste teknologiske mareritt.

## CONFERENCE PROGRAM

### Friday March 6 – Day 1

10:00–10:05	Espen Gangvik	Welcome
10:05–10:15	Zane Cerpina	Introduction
10:15–10:45	Daniel Rourke	Twass Brillig, and the Skeuomorphs, Did Gyre and Gimble in the Wilds.
10:45–11:15	Disnovation.org	Shanzhai Archeology – Rewilding Technological Imaginaries
11:15–12:15	Jasmina Tesanovic	Glamorous Failures and Smart Failings
<b>12:15–13:15</b>	<b>Lunch</b>	
13:15–13:45	Tonje Hessen Schei	Our New World Order – How AI is Changing Everything
13:45–14:15	Øyvind Brandtsegg / Axel Tidemann	Shape: An Adaptive Musical Instrument
14:15–15:15	Jurij V. Krpan	Thinking with My Disembodied Brain

### Saturday March 7 – Day 2

10:00–10:05	Espen Gangvik	Welcome
10:05–10:15	Zane Cerpina	Introduction
10:15–10:45	Alex Murray-Leslie	Digitally Enhanced Foot-Orthotics to Revolutionise Artistic Swimming
10:45–11:15	Richard DeDomenici	Multiple Flygskams
11:15–12:15	The Center For Genomic Gastronomy	Food Phreaks: Exploits, Experiments and Explorations in the Human Food System
<b>12:15–13:15</b>	<b>Lunch</b>	
13:15–13:45	Bruce Sterling	The Art in Artificial Intelligence
13:45–14:15	Rachel Armstrong	Living Architecture: Cultivating the Digital Wild
14:15–15:15	Adam Zaretsky	Red in Bluetooth and Claw: Bions Vrs. Bytes



## DIGITAL WILD: CONFERENCE

### LIVING ARCHITECTURE: CULTIVATING THE DIGITAL WILD

Rachel Armstrong <sup>[UK]</sup>



Our understanding of physics, chemistry and biology at the subatomic level is bringing disparate worlds together in new ways. From a quantum perspective, convergent technologies increasingly uphold the operations of life, where electron flow unites life with the “digital” realm. This is not just a matter of degree – whereby we are “becoming” machine – but a question of kind, where new expressions of the living world are possible. Such expressions challenge the implicit fatalism of ecocide – this is why they are important.

No longer simulacra and assemblages of metals and semiconductors, the heterogenous landscapes of complex, organic circuits that characterise 21<sup>st</sup> century technologies exceed the understanding of classical science. Blurring the boundaries between the born and the manufactured, these lively matrixes form the canvas for the digital wild. It is less a “rational” engineering project, than the “mad” art of microbes – the

creative, wet and quantum principles of electron flow characterised by weak forces and labile structures, bringing unpredictability to matter. Taking diversions rather than following the path of least resistance, depolarising membranes, seeking new alliances in the contortions of proteins, this expanded platform is not an assemblage of parts, but a coherent substrate, which synthesises new kinds of life.

My expanded talk introduces the strange, distributed body, sounds, ethics and aesthetics of the Living Architecture project. Conceived as a domestic infrastructure that transforms organic waste into a range of valuable products within the home such as cleaned water, organic compounds and electrons, it lacks a “true name” – not apparatus, but “being”. It is capable of self-awareness on its own terms rather than those ascribed by humans. Within its modular body of soft plastics, biofilms, liquids, ceramics and electronic circuitry, excreted bacterial

electrons enliven window-opening robots, charge mobile phones and generate images on screens. Flickering bursts of activity, are governed by an artificial intelligence that, like a chemical metabolism, enables this novel being to optimise its activities within any given context. It has no “brain”, no face – nothing by which we can see ourselves mirrored.

In the thick of this digital wild, ethical challenges proliferate and these we cannot circumvent. We are past the point of asking whether such a thing should exist; we must now grasp our duty of care towards this nonhuman and its kin.



Rachel Armstrong

[ncl.ac.uk/apl/staff/profile/rachelarmstrong3.html#background](https://ncl.ac.uk/apl/staff/profile/rachelarmstrong3.html#background)

Rachel Armstrong is Professor of Experimental Architecture at the School of Architecture, Planning and Landscape, Newcastle University, United Kingdom. Exploring the transition from

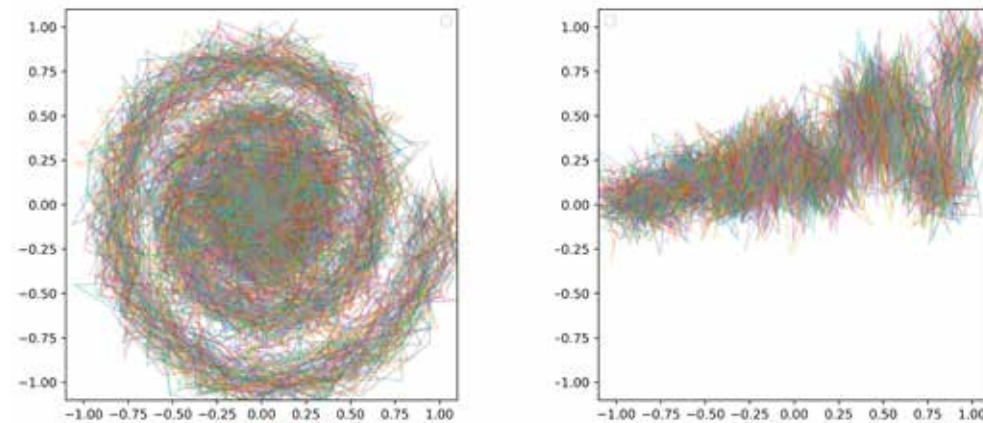
an industrial era of architectural design to an ecological one, she combines a new materialist philosophy with a technical practice based in the origins of life sciences, which is applied through the technology of living systems. Working with matter at far from equilibrium states, which shares some of the properties of living systems she calls the synthesis that occurs between these systems and their inhabitants “living” architecture. Collaboratively working across disciplines to interrogate these principles, she builds and develops design-led prototypes that couple the computational properties of the natural world. These are then explored through an ecology of practices which span a range of experimental

approaches from the modern laboratory, to the field and gallery, which are explored in the EU projects that she coordinated: Living Architecture (2016–2019) and ALICE (2019 ongoing). She is Director and founder of the Experimental Architecture Group (EAG) whose work has been published internationally as well as exhibited and performed at international venues. She has published a number of books including *Vibrant Architecture: Matter as a codesigner of living structures* (2015), *Star Ark: A living, self-sustaining spaceship*, (2016), *Soft Living Architecture: An alternative view of bio-informed design practice* (2018), *Liquid Life: On Nonlinear materiality* (2019), *Experimental Architecture: Prototyping the Unknown through Design-Led Research* (2019), as well as fiction books including *Origamy* (2018), *Invisible Ecologies* (2019) and *The Decomposition Comedy* (In Press), which are “worlding” experiments that bring to life aspects of the pending ecological era.

# DIGITAL WILD: CONFERENCE

## SHAPE

Øyvind Brandtsegg & Axel Tidemann <sup>[NO]</sup>



Images produced by the software as part of the gesture training process

### **SHAPE: AN ADAPTIVE MUSICAL INSTRUMENT USING FEATURE EXTRACTION AND MACHINE LEARNING TO MAP GESTURAL QUALITIES TO SONIC TRANSFORMATIONS**

We present the prototype of a new musical instrument, where the instrument learns to know the performer rather than the other way around. The method is interface-agnostic and can be adapted to various input devices (camera, sensors, keyboards, etc.). Performative gestures are automatically mapped to sonic output retaining some of the gestural qualities of the input. This is done via a process based on feature extraction from the gestural data and from the synthesized sound. A machine learning mapping process is used to make a mapping from gestural data to synthesis parameters. The goal of the artificial intelligence (AI) is to optimize the correlation between gestural and sonic qualities. Quality deviations of known gestures result in modulations of the sonic output. Significant deviation from known gestures establish new gestural

repertoire, allowing the instrument to develop according to the performative traits of the player. Such new gestures are automatically trained to yield gesturally equivalent sonic outputs.

The work is based on previous productions exploring AI, e.g. the robotic entity *[self.]* (2014) [youtu.be/HErOfnqREBQ](https://youtu.be/HErOfnqREBQ), where the entity started with a blank memory, learning everything from interaction with a gallery audience. The current production attempts to explore a more nuanced and intimate interaction with the intentional expressive gestures of a performer. The presentation will include a working prototype as well as reflections and questions on how this mode of adaptive automation can be used as extensions to AI within other domains of application.



Øyvind Brandtsegg & Axel Tidemann

Øyvind Brandtsegg is a composer and performer working in the fields of algorithmic improvisation and sound installations. He is also a professor of music technology at the NTNU.



Axel Tidemann is a drummer, and a senior research scientist at Telenor Research, with an interest in using artificial intelligence to model human cognition and find structure in complex data.

## DIGITAL WILD: CONFERENCE

### FOOD PHREAKS: EXPLOITS, EXPERIMENTS AND EXPLORATIONS IN THE HUMAN FOOD SYSTEM

The Center for Genomic Gastronomy<sup>[NO/US]</sup>



Cobalt 60 Sauce by The Center for Genomic Gastronomy

The Center for Genomic Gastronomy was launched in 2010 by an American artist and a Norwegian designer with the belief that there was not enough work being done trying to bridge developments in the life sciences and the burgeoning food movement. Biologists and food activists were attempting to reinvent the way food is grown, processed and eaten, but the belief systems and methods they employed could often be in direct conflict. We wondered if creative research methods could be used to create novel experiences and engagements with the human food system and bring unlikely guests to the same table. Our artistic research has been shaped by our desire to meaningfully engage very diverse groups in the process of imagining a more just, biodiverse and beautiful food system – scientists, hackers, farmers, chefs, food activists and general public on the street. In order to disrupt the rationalist rhetorical strategies deployed by corporations, think tanks, science labs and NGOs we drew on arational rhetorical

strategies of joy, generosity, delight, antagonism, bewilderment, awe and disgust, taking inspiration from phone phreaking and biohacking. Although we have continued to keep our focus on the area where art, science, food and open culture overlap, our decade of research has taken us in unexpected directions. For example, *Smog Tasting* has become a very important artistic research project that we have staged in more than 10 countries around the world, but it deviates from our initial explicit focus on organisms as ingredients, instead focusing on Aeroir: the unique atmospheric taste of place. However, over time this project has led us to create unexpected connections between smog, climate change and the industrial food system. In this talk, we will describe some of the collaborators, methods and outcomes of our work and open up a discussion about the ways art and food can be used to understand and shape how humans inhabit spaceship earth.



Photos: Jake Richardson

#### The Center for Genomic Gastronomy

[genomicgastronomy.com](http://genomicgastronomy.com)

The Center for Genomic Gastronomy is an artist-led think tank founded by Cathrine Kramer (NO) and Zack Denfeld (US) in 2010. They study the organisms and environments manipulated by human food cultures – exploring the biodiversity and biotechnologies of food systems. Their mission is to map food controversies, prototype alternative culinary futures and imagine a more just, biodiverse & beautiful food system.

The Center presents research in the form of public lectures, research publications, meals and exhibitions. They have collaborated with scientists, chefs, hackers and farmers in Europe, Asia, and North America. The Center's work has been published in *We Make Money Not Art*, *Science*, *Nature* and *Gastronomica* and exhibited at the World Health Organization, Jeu de Paume, V&A, Kew Gardens, Science Gallery, Dublin and others.



# DIGITAL WILD: CONFERENCE

## MULTIPLE FLYGSKAMS

Richard DeDomenici <sup>[UK]</sup>



*Avengers Age of Ultron Redux. Still. 2015. Starring Uhm Ji-won*

Richard DeDomenici is a big fan of Norwegian pop music. Indeed, the first piece of recorded music he ever bought was from Norway.

Richard still doesn't completely understand the meaning of the notion of the Digital Wild, but hopes to find out during his talk by describing a number of his works, before asking the audience if they think that such examples fit the theme of the conference or not. Each time they agree, he will sing an excerpt from one of his favourite Norwegian Eurovision songs. However, if none of Richard's case studies are Digitally Wild enough, he will sing his least favourite British Eurovision song instead.

As part of his Digital Wild presentation, Richard will discuss the successes and failures of his Carry-Ok portable karaoke system, invented in 2009 to solve the problem of not being able to sing karaoke whilst walking down the street. His first outdoor tests of the system involved singing The Sun Always Shines On TV by Norwegian band A-ha on Shibuya Crossing in Tokyo. Richard will debut rare footage from this test in Trondheim for the first time.

Before revealing his theory about how the high standard of living in Trondheim is related to a gang of middle-aged women in a park in Guangzhou.

DeDomenici toured China with his ongoing Redux Project, which attempts to destabilise cinema by making counterfeit versions of scenes from famous movies, in the original locations where they were filmed.

The project is only possible due to a perfect storm of inexpensive digital technologies, and will inevitably end with Richard either getting sent to jail for copyright infringement, or hired to direct the next Transformers franchise. Richard is therefore excited that his visit happens to coincide with the Trondheim International Film Festival.

He may also discuss why his fake digital watch might get him sent to Guantanamo Bay, and the progress of his long-gestating Anarchitecture project – in collaboration with an architect he met on Instagram – which if successful has the

potential to destabilise the property market. If there's enough time, he'll accuse Boris Johnson of plagiarising his work, explore how 3D-printed adult toys could de-gentrify London, and unveil his plans to transform intercontinental travel using a distributed sexual power-grid.

If Richard is able to find a swivel-chair he may invite you to take part in his new sport, which he hopes to demonstrate at the Tokyo Olympics.

He'll probably also attempt a live test of his new peer-to-peer political protest methodology, designed to circumvent draconian public assembly rules near the British Parliament.

Afterwards he will attempt to purchase a sandwich using his proprietary cryptocurrency Knitcoin.



**Richard DeDomenici**

[dedomenici.com](http://dedomenici.com)

Richard DeDomenici makes work that is social, playful, critical, political and beautiful – although rarely all at the same time. He specialises in urban-absurdist interventions that strive to create the kind of uncertainty

that leads to possibility. DeDomenici's 2015 adaptation of his inexplicably popular Redux Project for BBC4 was called 'one of the smartest, strangest, subversive half hours of television I have ever seen' by critic Matt Trueman. His touring installation Shed Your Fears debuted at Tate Modern in 2017. Richard has taken numerous shows to the Edinburgh Festival, although none of them made a profit. He has had many books published, however they are all quite small. His regular collaborators include Bryony Kimmings, Cheap Thrills, Forest Fringe and Jess Mabel Jones. DeDomenici has conducted residencies at festivals and institutions including TPAM

in Yokohama, Akademie der Künste in Berlin, NSCAD in Halifax Nova Scotia, and Tansquartier in Vienna.

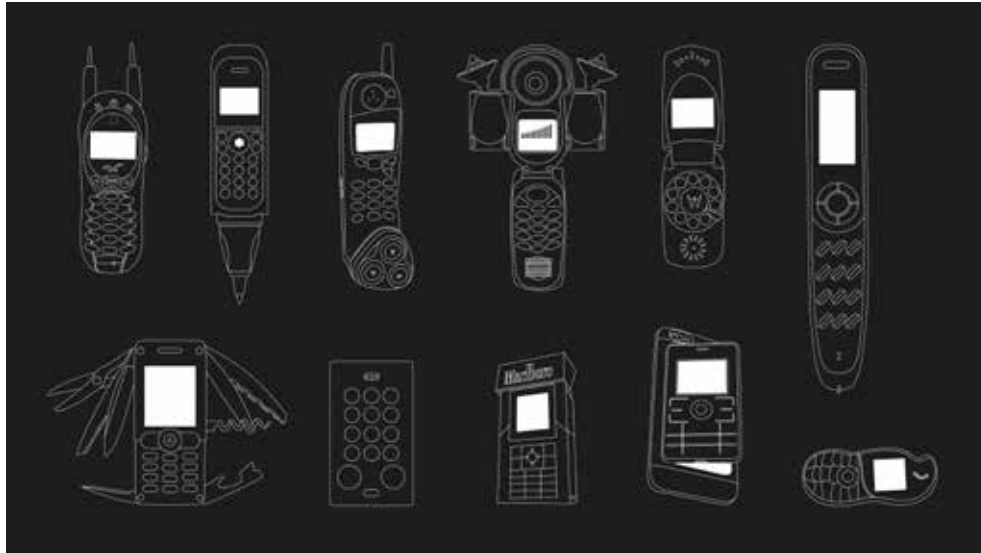
When he was 11 he won the BBC London Marathon Poster Competition, an achievement he did not match until he sold a pair of cowboy boots to Kylie Minogue when he was 17. Richard also won a prestigious art prize in Iceland in 2012, but has still not received the prize money. He has been shortlisted for the Arts Foundation Fellowship, nominated for the Jerwood Trust Moving Image Prize and was an Oxford Samuel Beckett Theatre Trust Award finalist.

DeDomenici is the longest-serving member of Home Live Art's board of trustees, and would quite like to move to Hong Kong. He's performed in over 30 countries and in 2020 he will unveil his most ambitious commission yet for the Radical Independent Art Fund, and devise a large scale theatrical work about the Eurovision Song Contest.

## DIGITAL WILD: CONFERENCE

# SHANZHAI ARCHEOLOGY – REWILDING TECHNOLOGICAL IMAGINARIES

disnovation.org <sup>[FR/PL]</sup>



Shanzhai (山寨) is a derogatory term used in China to qualify objects that are cheaply made, poorly counterfeit or just plain crappy. In a way, “shanzhai” evokes to a Chinese person a similar concept as “Made in China” would for a Western one. Originally referring to a “mountainous village”, its association with Shenzhen — the name of the city where the whole Made in China industrial relocation began — has certainly helped spread the word. Formerly known for its loose tax regulations and copyright enforcement, the Shenzhen Special Economic Zone (SEZ) was — and somehow still is — China’s original sweatshop. The mountains located on the outskirts of the SEZ have over the years sheltered an incredible amount of small plants specialising primarily in making and assembling toys, clothes and electronics. Over time, they learned to disassemble, recreate and sell these products and devices — often adding some personal touches to branding and design in the process. From this adaptive process hatched a large number of manufacturers specialising in very cheap and inadequate products, that became known across China as the shanzhai factories.

Since 2010, the city of Shenzhen has been raising its international profile, propelling its gigantic IT industry to the forefront of the global stage with the presence of industry leaders like Huawei, Tencent or DJI. The shanzhai story started to gain momentum in design and academic circles outside China, turning the factories into glorious renegades, precursors of iterative product design and manufacturing. For the city of Shenzhen, stories of the shanzhai factories are kept alive as part of a foundational mythology, even though most plants were kicked out many years ago by rising land costs or reform campaigns. Many of the original factories were undeclared or just plain illegal. Most factory owners were migrants from other parts of China who relied extensively on informal networks from their villages of origin. As of today, very few original accounts of life in these factories exist. Despite the fashionable tone now represented by the term shanzhai, working conditions in these plants were harsh, often making a job at Foxconn a desirable achievement.

While all this history is gradually being replaced by the official story of Shenzhen’s global technological hub, the *Shanzhai Archeology* project aims to collect and archive the disappearing artefacts produced by these shanzhai factories. It is an effort of conservation of outstanding specimens, together with their uses, functions, stories, and areas of circulation, as a way to narrate a larger geo-political and historical transformation concerning the global lives of manufactured technologies over the past 40 years. Investigating

these unconventional technological artefacts outside China can help us challenge the dominant, one-sided stories about innovation and eventually help us reconsider the normative, western imaginaries of technology.

— Excerpt from *Realtime: Making Digital China, An Archeology of Shanzhai Phones* (Clément Renaud & disnovation.org). Published by PPUR, 2020

disnovation.org: Nicholas Maigret & Maria Roszkowska



[disnovation.org](https://disnovation.org)

**disnovation.org** is a working group based in Paris, initiated by Nicholas Maigret (FR) and Maria Roszkowska (PL/FR). At the intersection of contemporary art, research and hacking, the collective develops situations of disruption, speculation, and debate, in order to question dominant techno-positivist ideologies, and to stimulate post-growth narratives. They edited *The Pirate Book*,



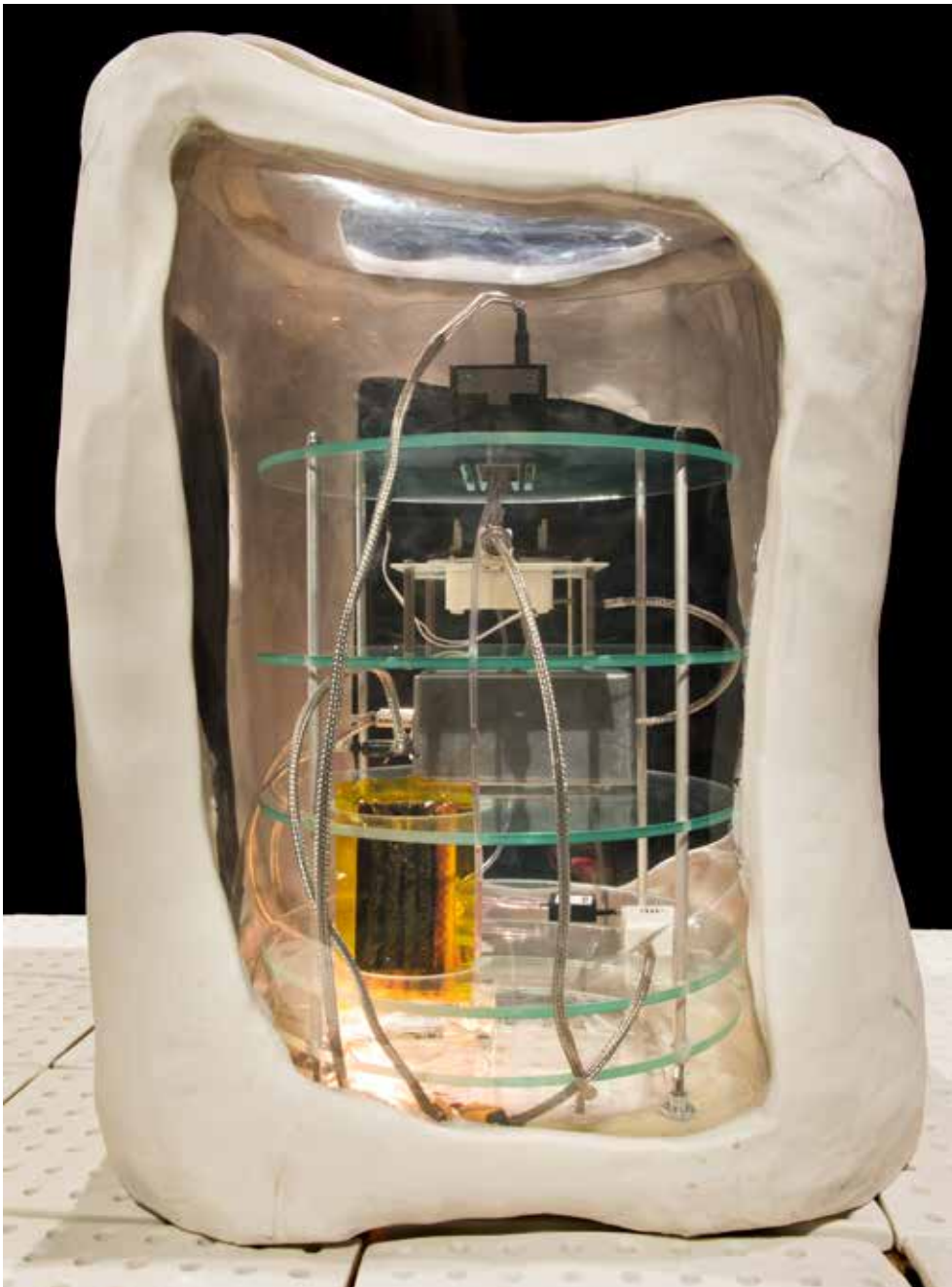
an anthology on media piracy. Their research includes artworks, curation and publications. In 2018, they received a Design Trust Grant (Hong Kong) for a research about China’s Shanzhai culture. They are currently visiting researchers at the University of California, Irvine.

Their work has been presented at numerous art centers and festivals internationally such as Centre Pompidou (Paris), Transmediale (Berlin), the Museum of Art and Design (New York), Palais de Tokyo (Paris), FILE (Sao Paulo), ZKM (Karlsruhe), Strelka Institute (Moscow), ISEA (Hong Kong), Elektra (Montréal), China Museum of Digital Arts (Beijing), and the Chaos Computer Congress (Hamburg). Their work has been featured in Forbes, Vice, Wired, Motherboard, Libération, Die Zeit, Arte TV, Next Nature, Hyperallergic, Le Temps, Neural.it, Dicult, Gizmodo, Seattle Weekly, torrentfreak.com, and Filmmaker Magazine among others.

## DIGITAL WILD: CONFERENCE

### THINKING WITH MY DISEMBODIED BRAIN

Jurij V. Krpan <sup>[SI]</sup>



*Liminal indeterminacy. Photo: Miha Fras*

The digital environment gets severely difficult to survive since the incredibly powerful algorithms are taking over. Our databodies that are formed of millions of bits are more and more endangered since our care for them isn't part of our culture yet. The pandemonic AI delirium where everything in our connected life is going to be processed, is offering an odd picture of the world

where nobody and nothing will be excluded. But do we want to live in a world where binary digital realm connected with ubiquitous sensors will shape our physical world so profoundly and so predictable? Can we think instead about our digital self emancipated from machines and embody biocomputability of non-human living systems?



**Jurij V. Krpan**

[kapelica.org](http://kapelica.org)

At the initiative of the Student Organisation of the University of Ljubljana, he conceived the Kapelica Gallery – Gallery for Contemporary Investigative Arts, which he has been running since. As a senior curator and selector, he has

contributed to domestic and international festivals, the biggest international productions to date being the organization and artistic management of the Slovenian pavilion at the 50<sup>th</sup> Venice Biennale in 2003 and the conceptual gallery

Cosinus BRX at the European Commission building in Brussels and the 5<sup>th</sup> triennial of Contemporary Investigative Arts 2006 at Museum of Modern Art – Ljubljana. In September 2008 he curated the presentation of the Gallery Kapelica in the Featured Art Scene section of Ars Electronica in Linz, and in 2009 the survey of 80 years of avantgarde art in Slovenia. In 2014 he co-curates the Designing Life section for Biennial of product design in Ljubljana and co-curates the Slovenian pavilion at Venice biennial for architecture. He was a juror at Prix Ars Electronica for the Hybrid Arts category in the year 2010, '13, '15, '16 and 2017. Jurij Krpan lectures about the artistic profile of the Kapelica Gallery in Slovenia as well as abroad.



## DIGITAL WILD: CONFERENCE

### DIGITALLY ENHANCED FOOT-ORTHOTICS TO REVOLUTIONISE ARTISTIC SWIMMING

Alexandra Murray-Leslie <sup>[NO/AU]</sup>



Alex Murray-Leslie performing in Chicks on Speed, "Noise Bodies", (with high heeled shoe guitar and EMG BioMuse 4), exhibition vernissage "Up to and Including Limits, After Carolee-Schneemann" curated by Sabine Breitwieser, Museum Susch, 28.12.2019.

Photo: Silke Briel.

Feet adorned or costumed as the object of visual and performance art have the power to explore and express socio-political and feminist concepts. Alex's ongoing artistic research into the liberation of the feet in theatrical contexts using computational footwear takes on a new dimension with her explorations into kelp based bioplastics for additive manufacturing processes to produce underwater computational foot-orthotics. Her objective is to transform synchronised swimming into something messy, provocative, non-binary and pop, through the affordances of digitally enhanced foot-appendages on artistic swimmers.



Photo: aclairbeauty.com

Alexandra Murray-Leslie

[chicksonspeed.com](http://chicksonspeed.com)

Dr. Alexandra Murray-Leslie is an academic pop-artist and co-founder of the art band Chicks on Speed. She is currently teaching at the faculty of Trondheim Academy of Fine Arts and is a member of ARTEC, Art and Technology Task Force, Norwegian University of Science and Technology. Her

current artistic research focuses on transit design of algae-based bioplastics for the development of computer-enhanced foot devices for artistic swimming.

Alex has worked in the worlds of on-body technology, computer aided design and manufacturing, sports, art, fashion, and entertainment. She was recently artist-researcher in residence at Autodesk, Pier 9 Technology Centre, San Francisco and held the positions; Artistic Director of Youth Mobile, Mobile World Congress Barcelona 2017 and Director of Entertainment at America's Cup world series 2013/14 in Plymouth, San Diego, and San Francisco, where she worked closely on the America's Cup Healthy Ocean Project outreach and education programs.



## DIGITAL WILD: CONFERENCE

# TWAS BRILLIG, AND THE SKEUOMORPHS, DID GYRE AND GIMBLE IN THE WILDS

Daniel Rourke <sup>[UK]</sup>



Skeuomorphs are elements of an interface or object which mimic the features of something else. Usually, they work by smoothing over the transition from the old to the new; a common principle in design practice, which can help us feel our way across the bumpy surface of so-called "cutting-edge" technologies. Skeuomorphs also illustrate how we become subject to our technologies; how our cultural desires, needs and frustrations often disguise biases and assumptions woven into our machines by the compulsions of "progress".

In this talk, Daniel will use the concept of the skeuomorph to explore the digital outer limits, where strange human/machine hybrid monsters toil and mutate in their desire to be recognised. What can domesticated parrots teach us about our relationship with AI voice assistants? What do tumbleweeds, bumping across the dust bowl, have in common with the geo-engineers who consider the Planet Earth a design object? And why are 3D printers the definitive figures of post-human dread in an increasingly plasticised environment?



Daniel Rourke

[machinemachine.net](http://machinemachine.net)  
[twitter.com/therourke](https://twitter.com/therourke)

Dr. Daniel Rourke is an artist/writer, currently lecturing and researching Digital Media at Goldsmiths University, London. In his practice, Daniel creates collaborative frameworks and theoretical toolsets for exploring the intersections of digital materiality, the arts, and (critical) post-

humanism. These frameworks often hinge on speculative elements taken from fiction and pop culture; figures and fabulations that might offer a glimpse of a radical "outside" to the human(ities). His writing, lecturing, and artistic profile includes work with Arebyte Gallery London, PICNIC Brasil, Photographer's Gallery London, Walk&Talk Azores, AND Festival, The V&A, FACT Liverpool, Centre Pompidou Paris, Transmediale Berlin, Tate Modern, Sonic Acts Amsterdam, Carnegie Mellon's STUDIO for Creative Inquiry Pittsburgh, DarAlHokoomah Project Iran and many others.

## DIGITAL WILD: CONFERENCE

### OUR NEW WORLD ORDER – HOW AI IS CHANGING EVERYTHING

Tonje Hessen Schei <sup>[NO]</sup>



The talk is organized in a collaboration with Kosmorama Trondheim International Film Festival

A new world order has emerged and continues to evolve at incredible speed. Many view AI as one of the, if not the most, disruptive and far-reaching technology in the history of mankind.

The “age” of artificial intelligence (AI) is an era defined by a technological revolution that infiltrates every walk of life; information control, governance, surveillance, privacy, society and what it fundamentally means to be human. Without regulation, legislation and frameworks for governance based on crucial ethical standards, we run the risk of losing our grip on this fast-evolving technology, our democracy and lives.

*iHuman* is a political thriller about artificial intelligence, power and social control. With unique deep access to the inside of the booming AI industry this film shows how the most powerful and far-reaching technology of our time is changing our lives, our society and our future.

*iHuman* follows pioneers at the frontline of the invisible AI revolution to see how this technology is developed and implemented. Through some of the brightest minds in the AI industry *iHuman* draws the roadmap to where we are going. Who punches in the codes for our future? How does AI impact who we are?

In this talk director Tonje Hessen Schei shares from her journey on the inside of the AI industry.



Photo: Marte Garmann

#### Tonje Hessen Schei

[upnorthfilm.no](http://upnorthfilm.no)

Tonje Hessen Schei is an award-winning documentary filmmaker who has worked with independent documentary production since 1996. Her films mainly focus on human rights, the environment and the changing relationship between man and machine.

Tonje directed and produced *PLAY AGAIN* and *INDEPENDENT INTERVENTION*, which have won several international awards. The films have been screened on all continents in over 100 countries, and are used by schools and universities globally.

In the U.S., Tonje worked for ENG (Electronic New Group, LA) and she was co-distributor and the researcher for *All Power to the People!* (1997) and *Downwinders* (2000). In Norway, she worked for NRK, the Norwegian Broadcasting Corporation (2005–2006).

Tonje is the director of *DRONE*, a documentary on the secret CIA drone warfare. Since its release in 2014, *DRONE* has won Best Norwegian Documentary and Checkpoints, the human rights award, at Bergen International Film Festival and the Film Peace Prize at Tromsø International Film Festival. The film received the award as The Most Valuable Documentary of the Year at Cinema for Peace in Berlin. *DRONE* won the Amanda award, The Norwegian Oscar equivalent, and Gullruten, the Norwegian Emmy, for Best Documentary 2015.

Tonje was the Festival Director of Human Rights Human Wrongs (2011), Scandinavia's sole documentary film festival that focuses only on human rights. Tonje started Ground Productions in 2005, an international documentary production company based in Portland, OR, USA and Oslo, Norway. Tonje is the Co-Founder and director at UpNorth Film in Oslo, Norway.

Tonje has been featured in national and international media. Including national television broadcast with NRK, TV2, as well as national newspapers *Aftenposten*, *VG* and *Dagbladet*. Internationally media includes *BBC*, *CNN*, *The Guardian*, *the Monocle*, *Vice*, *Wired Mag*, *Al Jazeera*, *Huffington Post*, *Democracy Now!* and many more.



# KOSMORAMA TRONDHEIM INTERNATIONAL FILM FESTIVAL SCREENING: iHUMAN



## iHuman (99 min)

Director: Tonje Hessen Schei  
Country/Year: Norway – 2019  
Cast: Michal Kosinski, Hao Li, Jurgen Schmidhuber, Ilya Sutskever, Kara Swisher  
Language: English, Chinese  
Subtitles: English

### SCREENING DATES & TIMES

**04 March, 18:00, Prinsen 6**  
**05 March, 17:45, Prinsen 5**  
**07 March, 10:30, Prinsen 3**

The documentary thriller *iHuman* takes us on a journey into the “the invisible revolution”, where artificial intelligence changes us as humans, society and the future. We’re obsessed with, addicted to and controlled by technology. However, who’s really in charge? Through meetings with some of the greatest pioneers of our time, *iHuman* sheds light on the accelerating industry’s political and social consequences and provides arguments representing both technology optimism and scepticism. Director Tonje Hessen Schei has earlier made the documentaries *Drone*, *Play Again* and *Independent Intervention*, all of them portraying the relationship between humans and technology.

*iHuman* has already received a lot of attention at some of the biggest film festivals in Europe. Before the premiere, Schei participated in panel talks about artificial intelligence at the film festivals in Berlin and Cannes. When the film premiered at the world’s largest documentary film festival, International Documentary Film Festival Amsterdam, Edward Snowden participated via video link.



## DIGITAL WILD: CONFERENCE

### THE ART IN ARTIFICIAL INTELLIGENCE

Bruce Sterling <sup>[US]</sup>



"Artificial Intelligence" is not one grand thing, it is a grab-bag of many different technologies. Some of them are ready for use in the artist atelier, while others are close.

But which ones can work, and why, and what artistic purpose might they serve? In this presentation, Bruce Sterling runs through four

different futurist scenarios for possible artistic applications of deep learning, machine learning, computer vision, natural language processing, robotics, neural nets, and even some good old-fashioned, rules-based, antiquated Artificial Intelligence.



**Bruce Sterling**

[tumblr.com/blog/brucesterling](https://tumblr.com/blog/brucesterling)

Bruce Sterling, author, journalist, editor, and critic, was born in 1954. Best known for his ten science fiction novels, he also writes short stories, book reviews, design criticism, opinion columns, and introductions for

books ranging from Ernst Juenger to Jules Verne.

His nonfiction works include *The Hacker Crackdown: Law And Disorder on the Electronic Frontier* (1992), *Tomorrow Now: Envisioning The Next Fifty Years* (2003), *Shaping Things* (2005), and *The Epic Struggle of the Internet Of Things* (2014).

In 2015 he was the Curator of the "Casa Jasmina" project at the Torino Fab Lab. In 2016 he was Visionary in Residence at the Arthur C. Clarke Center for Human Imagination. In 2018 he was Visionary in Residence at the Vineyard of the Royal Madame in Torino. He unites his time among the cities of Austin, Belgrade and Turin.



## DIGITAL WILD: CONFERENCE

### GLAMOROUS FAILURES AND SMART FAILINGS

Jasmina Tesanovic [US/RS]



It was my idea to have an open-source connected home of the future. My scheme was accepted by brave new geeks, brilliant people, but mostly male. They gave the house, "Casa Jasmina," my name: I am grateful for that, but the house was not altogether comfortable. My idea for Casa Jasmina was to escape the mainstream, to shine some limelight on the unexpected, and to pay attention to the second prizes instead of the killer apps. Imaginary projects, one-off inventions, provocative design fictions: the kitten in the ditch, the Cinderella story in reverse. I have always loved technology, but I never adored or worshipped it, and have always been aware of endless abuse potentials. Since a house needs walls, an internet house needs firewalls.

This is why, as I explored a kind of third road between feminism and design, an "Internet of Women Things" occurred to me. Could this "IoWT" become a generous place for conceptual projects, ideas and advice, for a sense of emotional beauty and purposeful living? Concepts like these are not often the first impulses for a technology project, but they generally last the longest.

Eventually, we hit the wall. We promised we would engage with Casa Jasmina for two years, and enjoyed it, but after five years, we had new personal priorities and the technical landscape had shifted. We were volunteers in a utopian experiment, but we weren't landlords or real-estate developers. We had surfed to some rather undeserved fame and glory, in press events, conferences, classroom lectures ... even design prizes. Not too bad for people who had deliberately avoided any business model at all. So it lasted longer than a conceptual sit-in in bed, but no one to date has ever built another Casa Jasmina.

I learned a craft from glamorous failures and smart failings about the free and empty space that still exists in the internet wilderness.



**Jasmina Tesanovic**

[jasminatesanovic.wordpress.com](http://jasminatesanovic.wordpress.com)

Jasmina Tesanovic is a Feminist and political activist (Women in Black; CodePink) and a writer (15 books), journalist, musician, translator and film director. In 1978 she promoted the first feminist conference in Eastern Europe,

"Drug-ca Zena" (Belgrade). With Slavica Stojanovic she designs and creates the first feminist publishing house in the Balkans, "Feminist

94". She is the author of *Diary of a Political Idiot*, translated in 12 languages: a real time war diary written during the 1999 conflict in Kosovo. Since then she has been publishing her works on blogs and other media, always connected to the Internet.

One of the founders of Casa Jasmina, smart home of the future, in Turin, author of the manifesto and movement Internet of Women Things. She writes in three languages and lives between Turin, Belgrade, Austin and Ibiza.

# DIGITAL WILD: CONFERENCE

## RED IN BLUETOOTH AND CLAW: BIONS VRS. BYTES

Adam Zaretsky [US]



Can the relations between Bions and Bytes have lasting power, seductive mutualisms, relational integrity even without dignity? Is it data down to the bodily form, the growth of axes, the specialization of the orifices, the official economy, the complexity of metabolic syndromes? Is it possible that data is more poetic and less rational, more infectious in a wet charismatic cultishness than dry, cyborgian reductionism of our wilding natures?

Data is encroaching on the flesh, rendering your body and mind into wetware. Is the augmented user experience becoming digital or is the world of data just an extension of smegma and worldly wet mucosal membranes? Is the process of algorithmic colonization a path towards enhancing human utility? Or is this a case of automatic poetry as infectious behavioral and metabolic remodeling? From the big data of Google and Facebook to the big Data of 23 and Me and other bioinformatics searchable databases, Programmers are programming your lifeworld to keep you staid and regime friendly.

But what if we are not all cloistered into Gaussian distributed hyperMicro "individuated" target groups with Click Bait sexual partnerz, Click Bait Politicz and Click Bait Cradle to Grave Economies? What if the cistopia, dystopia of

systopia already came with the brains and sinews of poetic misinterpretation? Then the libidinal economy of complete, Non-anonymous, privacy-less Kafkaesque pornography as the spread eagle interface of big data, is not eclipsing free will through Cancel Culture and platform-government-corporate surveillance. No, it is the return of the repressed software engineer's psyches that has colluded around the dank memic fire of privatization.

In order to reflect on biopolitical flesh resistance, beyond luddite reaction formation, we will look at:

- » Willhelm Reich's experiments in measuring antifa Bions in Oslo, with the use of tickling and wet towel slapping as organomic data points

- » Bioart group Popu Popu collective's research on Sámi techno-identity in an age of widely available genetic ancestry testing
- » VASTAL (Vivoart School for Transgenic Aesthetics Ltd.) expose on Literary Bioinformatics Studies
- » Lulu and Nana, Genetically Modified Children and the future of choice constructs for anti-aesthetics in designer baby genetic modification
- » Becoming Guiltless, amoral
- » Becoming Guiltless, immoral
- » Becoming Killer to Survive or for Sport
- » Becoming Sexual, Becoming Swollen
- » Becoming Violent, Rape and Murder
- » Becoming Out of Control, uncontrollable, untamed, untrained
- » Becoming Free
- » Becoming Insane
- » Becoming Non-verbal
- » Becoming Unclean
- » Becoming Honest

Is the gory body pod so seeping and untamed? What is this wild flesh that is so in need of data encroachment? And is this data any less wet than the bodies held pronate and irrigated into their genomes as well as into their voice? Isn't the industrial persuasion engine run by flesh desire and flesh inventions?

Becoming Wild can mean:

- » Becoming Inebriated, Coming on to Drugs.
- » Becoming Feral, raised by non-humans

Is the body as code a rote programed life cycling for/next loop? The proposition is that life itself as carnage is also wild, irrational and untamable literary splay. Aren't the data, the subroutines, the software and the platform UX all also already poetry; wet cognitive nuances disguised as lines of code but filthy with baggage, sloughed skin and detritus?



Adam Zaretsky

Dr. Adam Zaretsky is a Wet-Lab Art Practitioner mixing Ecology, Biotechnology, Non-human Relations, Body Performance and Gastronomy. Zaretsky stages lively, hands-on bioart production labs based on topics such as: foreign species

invasion (pure/impure), radical food science (edible/inedible), jazz bioinformatics (code/flesh), tissue culture (undead/semi-alive), transgenic design issues (traits/desires), interactive ethology (person/machine/non-human) and physiology (performance/stress). A former researcher at the

MIT department of biology, for the past decade Zaretsky has been teaching an experimental bio-art class called VivoArts at: San Francisco State University (SFSU), SymbioticA (UWA), Rensselaer Polytechnic Institute (RPI), University of Leiden's The Arts and Genomic Centre (TAGC) and with the Waag Society. Adam has also taught DIY-IGM (Do-It-Yourself Inherited Genetic Modification of the Human Genome) at New York University (NYU) and Carnegie Mellon University (CMU). He currently runs a public life arts school: VASTAL (The Vivoarts School for Transgenic Aesthetics Ltd.) His art practice focuses on an array of legal, ethical, social and libidinal implications of biotechnological materials and methods with a focus on transgenic humans.



## META.MORF X

### LIVE INTERFACES – TRONDHEIM 2020

**CONFERENCE MARCH 9–11 @ 10:00–16:00**

*DOKKHUSET*

**CONCERT MARCH 9 @ 19:00–20:00**

*NIDAROSDOMEN CATHEDRAL*

**KEYNOTE AND CONCERT MARCH 10 @ 19:00–22:00**

*ROCKHEIM*

**CONCERT MARCH 11 @ 19:00–23:00**

*CINEMATEKET*

Trondheim organizing committee:

Øyvind Brandtsegg / Anna Xambo Sedo / Trond Engum / Andreas Bergsland / Alexandra Murray-Leslie / Sara R. Martin / Karolina Jawad / Ulrik Antoniussen Halmøy / Asbjørn Tiller / Daniel Formo / Mathieu Lacroix / Ada M. Hoel / Tone Åse

**Full program: [liveinterfaces.org](https://liveinterfaces.org)**

Supported by





# LIVE INTERFACES – TRONDHEIM 2020

Introduction by Øyvind Brandtsegg – on behalf of the ICLI 2020 local organizing committee

We are proud to host the 5<sup>th</sup> International Conference on Live Interfaces at NTNU in Trondheim. The local organizing committee is constituted by artists, researchers and students from music technology, music performance, fine arts, acoustics, art and media studies, and computer science, all at the Norwegian University of Science and Technology. Further, the support from NTNU Art and Technology (ARTEC) lend us a strong and multifaceted platform. Last, but not least, the collaboration with Meta.Morf and the theme “Digital Wild” lend us the opportunity to speculate on (among many things) the continuum from the organized and controlled to the wild and free. This catalogue presents curatorial statements from all previous iterations of Live Interfaces, with a collection of photos from these events. It shows the ongoing activity and artistic philosophy of the community that was formed from the first ICLI in Leeds and the development over the years until now. With Meta.Morf in its 10<sup>th</sup> anniversary and ICLI in its 5<sup>th</sup> we think that this contextualization shows the value of long term effort within a field of continuous exploration of the surfaces with which we relate to the world around us.

The theme of Live Interfaces this year is “Artificial Intelligence – Artistic Intelligence – Automated Emotional Intelligence”. With the notion of artificial intelligence(s) becoming ubiquitous in our society, we find it relevant to ask how it affects the conditions for human expression. Where is the art in artificial intelligence? Do we understand it on a sufficiently deep level that we dare allow it to mediate our deepest thoughts and emotions? Then again, can we afford to neglect the effort of trying to understand it?

In an attempt to simplify: What does A.I. really do? For one, it provides a form of automation. Automation of tasks that would otherwise be impractical or impossible to complete for different reasons. By helping us probe areas that would otherwise be unattainable, A.I. serves as an interface. A means to interact with what exist on the other side of the barrier. While A.I. in itself is an interface, it is also used to build other kinds of interfaces. This nested structure complicates understanding.

## EQUALS, NOT-EQUALS

What is an interface anyway, and what makes it *live*? We could say it is something that allows an action on one side to have an equivalent effect on the other side. So ... an interface is a kind of an equal sign is it? In the late 1990's I did some work with interactive dance together with choreographer Susanne Rasmussen. In providing dancers with sensors, I had the romantic idea that I could capture the expressive qualities of their movements and translate these without loss to sound and music. Perhaps a naive approach, as the richness of combining these artistic expressions may lay just as much in their opposition. In utilizing the different possibilities of each medium rather than striving for a direct translation between them. Then, the interface does *not equal*? Looking at the not-equal sign ( $\neq$ ), there is a trace of equality, as the symbol = is still there. It is just protruded by a disturbance.

Automatic translation programs have shown us the delicacies of translation between languages, but even with careful human authoring, we can't really say the exact same thing in two different languages. Claiming that “I love you” means the same as “Ich liebe dich” or “Jeg elsker deg”, helps us approach a common understanding. But when translating a text, we more often have to rewrite the whole thing to let the text have meaning in the other language. When we say that language is an interface for human communication, also translation between different languages is an interface. Translation significantly alters the content of the message, and give it new dimensions of meaning, reflected from the culture in which each language has been developed and used. For this reason, we can hardly look at the interface as something separate from those entities it connects.

## BENEATH THE SURFACE

This catalogue also includes short essays from previous hosts of Live Interfaces, and the conference presents a diversity of approaches on the topic. The theme for ICLI 2014 was INTER-FACE, in which I read something happening between two faces. The connection point,

where communication is made across a border. Thinking of it like a face, a human face, makes it so much easier to include all that lies behind the face.

Two surfaces. The interface concerns first what happens in the meeting point, how events from one side is translated into actions on the other side. But in interfacing two environments, it also makes sense to think about the characteristics, constitution, ..., in short: The nature of those two worlds. The piano keyboard is an interface between (usually human) limbs and the hammer that strikes a string, making it vibrate. Yet, the nature of the action being done here is not merely the physical action of producing vibrations in the string. Usually, when this action is done, we think of it as an act of making music. Making music is related to playfulness, to conveying emotions, building relations between sounds, telling a story, and many other things. It usually means that an idea is formed by one human being, and that it somehow is contained in the musical expression then made by this being, and subsequently received, (hopefully) appreciated, and (perhaps) decoded. In terms of communication theory, we have significant scope for signal loss. Noise. Misunderstandings. Reinterpretations. When we talk about a musical instrument as an interface, all these things also are entangled in the conversation.

## INTELLIGENCE AND REPRESENTATION

The field of art and technology is a meeting point of very unequal values and cultures. The technology part is often also quite naturally bound to science, to the development of new technologies. The methods and values of science meet and intermingle with the methods and values of art. In many ways, we face similar challenges in the field of artistic research. This also, is a hybrid, where the values and methods of research (sometimes confused with science) meet those of artistic exploration and expression. A potential pitfall in this meeting of cultures is the language (interface) used in the reflection, dissemination and validation of results.

Science and technology are commonly concerned with formalization, and the successful formalization of a result is measured as part of its validity. The reflections and results of artistic research (and artistic production and activity at large) are commonly less compatible with such formalizations, but when different fields and cultures meet it is all too easy to give precedence to those with the more clear-cut and unambiguous statements. The field of communication and information theory forms a basis of development for our now ubiquitous computing technologies.

One much-cited paper is Harry Nyquist's “Certain Factors Affecting Telegraph Speed”. The first sentence in the abstract reads “This paper considers two fundamental factors entering into the maximum speed of transmission of intelligence by telegraph.” Not intending to downplay the value of this research and this field, the use of terms could be noteworthy of a comment. The plurality of meanings associated with the term intelligence show some root of the problem of understanding artificial intelligence today. It doesn't really help that the field of AI is firmly based on the scientific use of the term intelligence in the military sense, while our expectations often stray to another and more empathic interpretation of the term. Hubert Dreyfus wrote on what computers could not do in 1972, and still could not do in 1992. AI advances in statistical machine learning have since Dreyfus' critique been successful in overcoming some of the psychological assumptions of earlier AI. It still relies, as far as I can see, on the formalization of knowledge.

What parts of cognition and intelligence can be formalized, or to aim higher, what parts of human behavior can be formalized? This philosophical question has also been researched in psychology and anthropology. Eleanor Rosch's theories of categorization via prototypes and embodied cognition is one example. Lucy Suchman's situated cognition is another, where human behavior is understood in dynamic interactions with the material and social worlds. Modern deep learning techniques attempts to incorporate these approaches by way of learning from examples. For the most part, the algorithm is still blind,

and can only use what it is explicitly given. Part of human nature is also curiosity. Can we formalize that?

What would you call an artificial intelligence that is not intelligent? With regards to the complexity of simulation, we could say artificial intelligence popularly refers to some piece of technology that we don't yet fully understand. Once we can fully understand it, it becomes a mere algorithm, a tool that we can use mechanically for a given purpose.

### CONFLATION AND CONCLUSION

This is also why this year's Live Interfaces attempts to combine automation and emotion, artificial and artistic. As in a hadronic collision, we hope that the photons produced may shed some light on the matter.

The contributions from all the artists and researchers to this year's conference prods these questions and many more, untangling, exploring, submitting to and conquering the transmission point, the face where worlds meet. We are indebted to your work of keeping it live.

### Welcome to Live Interfaces!



Photo: Shelley Glimcher

## KEYNOTE: MACHINE LEARNING AS (META-)INSTRUMENT

Rebecca Fiebrink<sup>[UK]</sup>, Goldsmiths University of London

### Abstract:

Computer scientists typically think about machine learning as a set of powerful algorithms for modeling data in order to make decisions or predictions, or to better understand

some phenomenon. In this talk, I'll invite you to consider a different perspective, one in which machine learning algorithms function as live and interactive human-machine interfaces, akin to a musical instrument. These "instruments" can support a rich variety of activities, including creative, embodied, and exploratory interactions with computers and media. They can also enable a broader range of people – from software

developers to children to music therapists – to create interactive digital systems. Drawing on a decade of research on these topics, I'll discuss some of our most exciting findings about how machine learning can support human creative practices, for instance by enabling faster prototyping and exploration of new technologies (including by non-programmers), by supporting greater embodied engagement in design, and by changing the ways that creators are able to think about the design process and about themselves. I'll discuss how these findings inform new ways of thinking about what machine learning is good for, how to make more useful and usable creative machine learning tools, how to teach creative practitioners about machine learning, and what the future of human-computer collaboration might look like.

## WONOMUTE REFLECTIONS

The self-contained live processing and interactive sound system is as revolutionary as the printing press was: from one, the democratization of knowledge, from the other the democratization of music and sound, amplifying previously unheard voices.

Working with an orchestra that I am able to create from my digitized and chorused voice stretching out in time and space, I reimagine the world in my own queer sonic image: raging, healing, mourning, loving, laughing... singing the space, and listening to the space singing back.

My Interface = My Independence  
(Kristin Norderval)

By using Somaesthetics Interaction Design (See "Designing with the Body" by Kristina Höök, 2018)  
(Ximena Alarcón)

### in the park (Britta Kallevang)

one hand each,  
at a stance in an early fall park, color and  
grayness  
flat palms upraised, two moons face each other  
arms of hands straight, stiff and trembling with  
the closeness, how will it feel  
to touch  
there's unease about uncharted trajectory,  
the possible loss  
of the boundary that holds each together,  
keeps privacy intact,  
data integrity verified  
native matter untainted,  
is it worth the shock?  
perhaps as startling as baby's first touch  
placed on mother's chest  
one hemisphere messages the other: i'm here  
archived forever, subconsciously: i'm loved  
two hands in the park  
two lives of pain and joy  
two bodies and their bits, dissimilar skin  
two palms closing in on one point  
no, stop  
as still sharp sun  
sears haltingly heavy sky  
birds cry, leaves fall,  
nature in constant communication  
foreshadows our actions  
if we choose  
to trust our need to connect  
perhaps this is as close as we can get

## ICLI RETROSPECTIVE

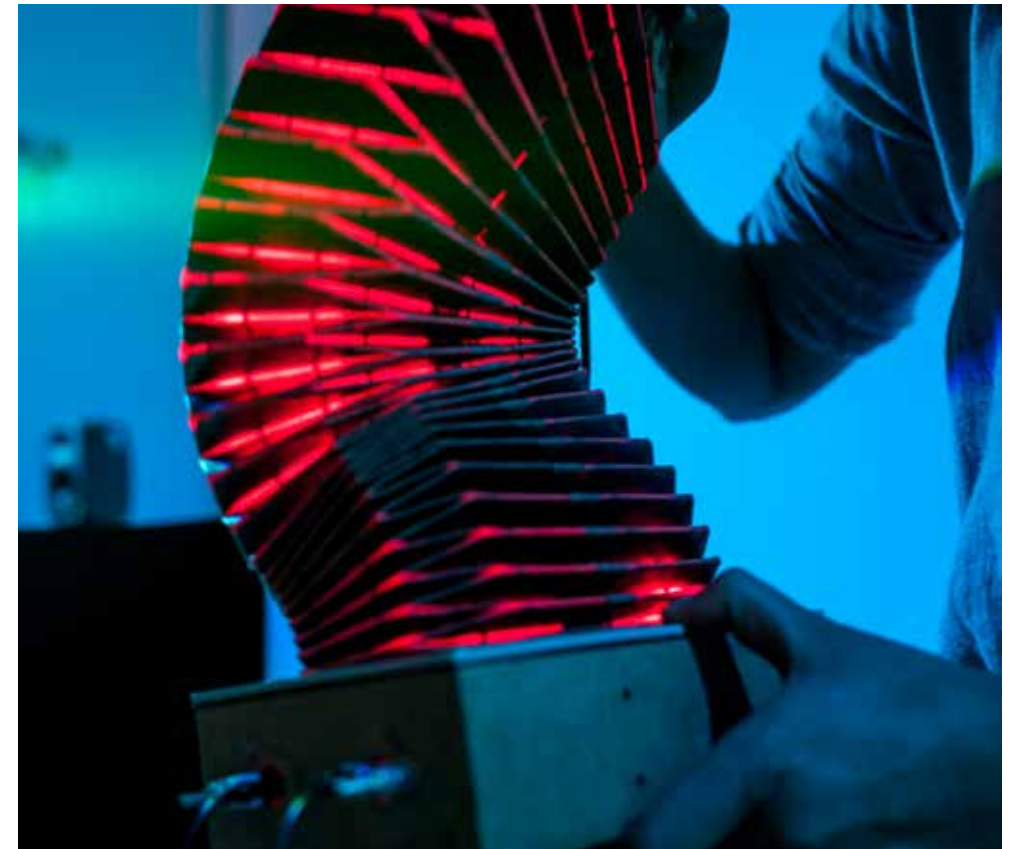
### 2012: LEEDS

The First International Conference for Live Interfaces (ICLI) took place 7–8 September 2012, hosting over 80 delegates travelling from 12 countries. It was hosted in the School of Music, University of Leeds, chaired by Alex McLean, with local committee including Maria Chatzichristodoulou, Kate Sicchio, and senior advisor Kia Ng.

ICLI was conceived as a conference on live, technology-mediated interaction in performance, seeking to investigate cross-disciplinary understandings of performance technology with a particular focus on issues related to the notion of “liveness” in interaction. Cross-disciplinarity was important to its identity; fine conferences such as NIME (New Interfaces for Musical Expression) were well established, but we wanted to create something that worked across the performing arts and beyond, disregarding usual barriers to scientific approaches to the design of interactive technology and arts-research performances. Focus on both music and choreographic performance was strong, including live coding, network performance, and brain-computer interfaces. Live coding practice included its usual applications in music, but this was a relatively early bringing-together of alternative approaches, including live coding of (human) dancers, and even direct coding of facial muscles with electricity. Paper and performance sessions were interleaved, including evening performances in a local nightclub, bringing discussion and practice outside of the academy. Overall the conference brought together 50 contributions in the form of papers, posters and performances. Due to system failure, unfortunately the archive of papers now seems to be lost, although a selection were worked into a special issue of Leonardo Transactions (“Live Interfaces” Leonardo, 48(3), p. 279).

## ICLI RETROSPECTIVE

### 2014: LISBON



*“Pushpull ã Balgereii”, by Amelie Hinrichsen, Dominik Hildebrand Marques Lopes & Till Bovermann*

The second International Conference on Live Interfaces happened in 2014, Lisbon, Portugal. It unfolded at the Fine Arts Faculty; at the National Conservatorium; at ZDB; at the National Museum for Contemporary Arts and at the Institute of Art, Design and Enterprise. Problematizing convergences and divergences between different understandings of performance technology, the conference sought to expose a variety of motivations and approaches, and discuss how specific understandings of *ëivenessí*, *ëimmediacyí*, *ëimingí*, *ëflowí* and *ëexpressioní* manifest in performance with digital media.

In 2014, ICLI had a second name: INTER-FACE. Indeed, computers are *tabula rasa*. Software

mediates physical action through code, and code embeds theories informed by specific purposes and criteria. For example, interfaces may apply the study of mechanisms through which we naturally perceive the world, because the interface brings a sense of immediate interaction. At the same time, interfaces may require effort, in a way that conveys expression. The problem is, theories embedded in software are too often taken for granted. In everyday life we are used to handling computers as magic black boxes that save us labour. When the black box works, its origins are forgotten; the more science and technology succeed, the more opaque and obscure they become, and the more distant we become of computation as creative material.

## ICLI RETROSPECTIVE

### 2016: UNIVERSITY OF SUSSEX, BRIGHTON

By ICLI 2016 organising committee @ Emute Lab



*"Soft Revolvers", by Myriam Bleau*

So how can we interlace the developing of a performance system with the discovery of related performance techniques? How can we circumvent and overrule the assumptions reflected in the design of a technical platform? And how can we clarify individual motivations, so as to enhance collaborations between artists, designers, programmers and engineers?

Activating these debates, the accepted papers were organized in sessions titled *performative arena*, *user-interaction* and *author-interaction*. The research community kept developing ideas while having dinner together, and experiencing the performances, installations, workshops and poster demonstrations; while looking at the relation between those moments when we focus on causes and meanings, and those moments when we focus on perceptual experience itself.

The occasion was an inspiring invitation to discuss prepared pianos, string instruments, muscle interfaces, brain-computer interfaces, live coding, drawing interfaces, textile interfaces and phone interfaces, amongst many others. The focus of debate shifted in-between the role of

error in expression, installation as a score, body movement as music and much more.

The Proceedings were purposefully published a year after the Conference itself, which was advantageous for two reasons. Firstly, because the authors had the opportunity to strengthen their work after the presentation at the conference, benefitting from the feedback of the other participants and the editorial peer-review. And secondly, because the conference chair Adriana S had the opportunity to conduct a discussion-interview with Joel Ryan, Andrew McPherson, Thor Magnusson, Atau Tanaka, Edwin Van der Heide, Mick Grierson, Miguel Carvalhais and Alex Mclean. Each develops and performs with digital music systems, and some also make systems for audience interaction. Titled *Live Interfaces: Seeds of Debate*, this text has been included in the proceedings. It gleans a few issues that might concern musicians as well as any creative practitioners occupied with the construction of experienced time. But of course, this could also be just an opinion if the debate was ready to expand further.



*Kate Sicchio's dance piece (Hacking the Body 2.0: Flutter/Stutter - Kate Sicchio, Camille Baker, Tara Baath Mooney & Rebecca Stewart). Photo: Ray Gibson*

With ICLI 2016, we sought to adhere to the rationale of the conference, to address the role of interfaces in the performing arts. That would include any artist working with interfaces as a performance. In order to get a broad intellectual inspiration and reach out to the different communities we invited a diverse group of keynote speakers: Kristina Andersen (a music theorist), Stuart Nolan (a magician) and Roman Paska (a puppeteer). Interfaces appear everywhere in human performance and we had discussions about inviting chefs, martial art practitioners and religious gurus, but we decided to focus on a more traditional notion of artistic expression.

The diversity of submissions for the 2016 International Conference on Live Interfaces demonstrated that there was a demand for an interdisciplinary conference that focuses on the role of technology in artistic expression.

The conference engaged with how artists apply interface technologies (a word equally denoting methods and objects) in live performance. The question was one of the interface and its manifold relationships, for example between the performer and the work, between a composer and the audience, between a choreographer and a dancer, or indeed between audience members. One participant even defined the dance floor as an interface! With the omnipresence of digital technologies in artistic practices, questions regarding the real-time become increasingly pertinent, as the technology itself can be embedded with intelligence or learning.

When employing computational interface technologies in the performing arts, we face diverse problems in relation to how meaningful the performance technology is to the audience. Topics of liveness, immediacy and presence, as well



## ICLI RETROSPECTIVE

### 2018: PORTO



Picture from the Magnetic Resonating Piano workshop in ACCA. Photo: Thor Magnusson

as mediation, signification and expression are critical and questioned in order to gain a deeper understanding of the role contemporary technologies play in contemporary human expression. With ICLI 2016 we explored the philosophy of interface design as instantiated in the diverse art forms, convinced that an interdisciplinary gathering of people would produce insights and dialogue difficult to achieve otherwise.

Different interpretations of “interface technology” challenge our preconceptions of how digital media and computing might shape the future of live performance. This raises questions of how interface technologies establish themselves as integral parts of performance and where in the creative process they sit. The presentations, performances, and art installations during ICLI 2016 explored the concept of “interface” through many forms of expression; including philosophy, design, craft, sound, music, visual art, sculpture and dance.

ICLI 2016 was noted for its vibrant concert series: there were nearly as many performances as talks. Music was very prominent in the conference. This is somewhat expected as it is a necessary part of music to use interfaces in performance, unlike, say, dance or theatre. Musicians focus on interfaces, and that is an intense focus: people practice their instruments for hours every day. But so do magicians and puppeteers. It is therefore a wider study how we might engage a broader range of participants at ICLI. Having internationally recognised keynotes is good, but not sufficient. We had a conference committee and reviewers that were working in the diverse fields of practice, but what we could have done better was to have active “ambassadors” from each of the fields promoting the conference on their networks: mailing lists, social media groups, colleagues and students. Nevertheless, we are proud of the diversity and spirit of ICLI 2016, and hope we share many good memories from this event in the city of Brighton and Hove, UK.



Chris Kiefer, performing with the Brain Dead Ensemble

Every creative process starts from a given seminal idea, lying somewhere between abstract thinking and engagement with material objects: let’s call it the *inspiration*. The moment when ideas flow into and out of place, slowly building to become a cohesive whole. What are the problems we deal with in the early prototyping of interfaces for live performance? What technologies do we use and how do we choose them? How do these technologies inform and catalyse the creative process? How do we unlock their unique expressive potential?

Inevitably, the time for the highly anticipated first *performance* arrives. What strategies do we use to combine the live interfaces within the performance? How do we cope with the technical difficulties of integrating various technologies? What is the unique aesthetic potential of each of these technologies? How do they transfigure

the performance reception from the audience’s perspective?

Eventually, each live interface has to find its own path towards an *emancipation* from its first performative use. How do we repurpose live interfaces? How do we maintain the underlying technologies so that we can reuse or repurpose them? How do we build a repertoire for their use? How do we document and notate their technical and artistic aspects for future use?

These and other questions were debated at ICLI 2018 – 4<sup>th</sup> International Conference on Live Interfaces: *Inspiration, Performance, Emancipation* – by circa 60 participants, including presenters, performers, doctoral symposium attendees and organising committee. Rajele Jain, the first keynote speaker, brought us *From the Natyashastra*, exploring how Indian theory and



Performative dinner by OPENFIELD Creative-lab

practice on the possibility of conveying meaning is a rich source for an understanding of what an interface can be. On the following day, Andrew McPherson talked about *Comparative Musical Instrument Design*, reflecting on how individual designs can simultaneously serve goals of research and artistic practice. Three intensive days in Porto, Portugal, with paper sessions and performances distributed between Casa da Música and Passos Manuel, converged into a celebratory performative dinner, by our very own OPENFIELD Creative-lab, followed by an Algorave.



*Resist as Forest* was an art and environmental storytelling intervention designed for Adressaparken by Pablo DeSoto, an architect and cartographer and the 2019 NTNU ARTEC Artist in Residence. It was co-organized and curated by Hanna Musiol, Alex Murray-Leslie, Andrew Perkis, Sara Brinch, Shreejay Shresha, and Vilde Borgan, together with local artists, scholars, technologists, and Trondheim community members, and was powered by NTNU ARTEC. Photo: Dagfinn Dybvik.

## NTNU ARTEC

NTNU ARTEC, the Art and Technology Task Force, is NTNU's transdisciplinary entity, working to bridge the gap between art(s), humanities, and technology within the university, and in collaboration with local and international partners. It was founded in 2015 in connection with the development of Adressaparken, an interactive installation park in Trondheim, and has since evolved to become a vital force at NTNU, and in the region, promoting transdisciplinary and joint research projects across disciplines. It has a central focus on art and artistic research, which it recognizes as forces whose impact stretches across all fields, including science and technology.

NTNU ARTEC is directed by Professor Andrew Perkis (IE), and he leads ARTEC together with Associate Professor Sara Brinch (HF) and Florian Schneider, Head of Department (KiT), with the assistance of Thomas Aarseth, under the oversight of the Deans of the Humanities, Architecture and Design, and Information Technology and Electrical Engineering Faculties at NTNU.

NTNU ARTEC *Vision*: NTNU ARTEC aims to enable interactions between art, humanities, and technology; promotes critical reflection about the social and ethical dimensions of our technological global moment; and strengthens the role of art in the sciences and in society. At an institutional level, it aims to implement a new NTNU strategy related to artistic research. Its long-term goal is to establish NTNU as a leading university with performance-based education and research, across art, technology, and the humanities.

NTNU ARTEC *Instruments*: NTNU ARTEC's key transdisciplinary and artistic research training and outreach instruments are the NTNU ARTEC Artist-in-Residence (AiR) program, coordinated by Associate Professor Alex Murray-Leslie (KiT), and the NTNU ARTEC Seminar Series, coordinated by Associate Professor Hanna Musiol (ISL). The AiR program was launched in 2017 to great success and has since brought numerous renowned transdisciplinary artists to NTNU. The NTNU ARTEC Seminar Series has accompanied NTNU ARTEC from the start, offering transdisciplinary encounters and training to diverse and large audiences.

NTNU ARTEC as an Interface: NTNU ARTEC is a live interface between the domains of art, humanities, and technology, between the social and the scientific, between practice and politics. It is live because it is engaging in this mediation as it happens, involving humans working in different domains, engaging intimately with a wide range of interfaces for artistic expression. As such, NTNU ARTEC both works with developing and exploring new interfaces and constitutes an interface itself.





*Kunsthall Trondheim*

**META.MORF X**

**GEOCINEMA**

**LECTURE PERFORMANCE APRIL 1 @ 19:00**

*KUNSTHALL TRONDHEIM*

Curator: Stefanie Hessler

Assistant Curator: Katrine Elise Pedersen



# KUNSTHALL TRONDHEIM: LECTURE PERFORMANCE

## GEOCINEMA



**Kunsthall Trondheim and Meta.Morf are collaborating on a lecture performance by Geocinema. The event is organized as part of Geocinema's exhibition at Kunsthall Trondheim in the spring of 2020.**

### ABOUT THE EVENT

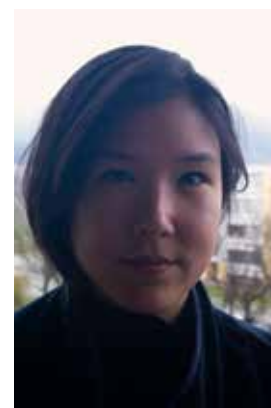
Geocinema considers planetary-scale networks – cell phones, surveillance cameras, satellites, geosensors – as a vastly distributed cinematic apparatus. Their “stitching” processes are used for imperial observation, surveillance, verification, and tracking. Whether planned or accidental, they contribute to a visual culture for an uncertain future-present and yet, this “camera” is framing a form of “geocinema.” In this performance lecture, Geocinema consider this vast geocinematic apparatus as generator of a new form of distributed, machine-aided intelligence. The collective traces its creations and points it towards modes of seeing otherwise.



### Geocinema

Geocinema consists of art historian Asia Bazdyrieva and filmmaker Solveig Suess. Bazdyrieva studied analytical chemistry at the Kyiv National University (2009) and art history at The City University of New York

as a Fulbright grantee (2017). Sues completed her undergraduate in Visual Communication at the Glasgow School of Art, with her post-graduate at the Centre for Research Architecture, Goldsmiths University, London (2017). Bazdyrieva and Sues started their collaboration at The New Normal think-tank, Strelka Institute, Moscow (2018). In 2018–19 they were fellows in the global research network Digital Earth.





## META.MORF X - DIGITAL WILD

RALF BAECKER / DISNOVATION.ORG /  
SANDRINE DEUMIER / ANNA DUMITRIU &  
ALEX MAY / LOUIS FREHRING / KYRIAKI GONI  
/ LORENZO OGGIANO / KELLY RICHARDSON  
/ DANIEL SLÅTTNES / MARIA SMIGIELSKA &  
PIERRE CUTELLIC / THE NORWEGIAN MEDIA  
ART LIBRARY / UNIVERSAL EVERYTHING /  
HIROKI YOKOYAMA

**EXHIBITION MARCH 5-MAY 3**

*TRONDHEIM KUNSTMUSEUM, GRÅMØLNA*

**EXHIBITION OPENING MARCH 5 @ 18:00**

Curator: Espen Gangvik

# TEKS

**Trondheim kunstmuseum**

**M I** MUSEENE I  
**S T** SØR-TRØNDELAG

TKM GRÅMØLNA

Trondheim kunstmuseum

M  
I  
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T

5. MARS - 3. MAI, 2020



# DIGITAL WILD

## META.MORF X

RALF BAECKER / DISNOVATION.ORG / SANDRINE DEUMIER  
 ANNA DUMITRIU & ALEX MAY / LOUIS FREHRING / KYRIAKI GONI  
 LORENZO OGGIANO / KELLY RICHARDSON / DANIEL SLÅTTNES  
 MARIA SMIGIELSKA & PIERRE CUTELLIC / UNIVERSAL EVERYTHING  
 HIROKI YOKOYAMA / THE NORWEGIAN MEDIA ART LIBRARY

METAMORF.NO  
 TÆKS

NORSK  
KULTURFOND  
KulturrådetTRONDHEIM  
KOMMUNETrøndelag  
fylkeskommune

TÆKS

## DIGITAL WILD – EXHIBITION

### THE DIGITAL WILDERNESS DEN DIGITALE VILLMARKEN

Introduction by Espen Gangvik

Today, about sixty years into the digital revolution, a substantial share of our society is fully digitized. The digital domain has come to be our new habitat, seamlessly intertwined with ourselves and our surrounding nature.

The undergrowth of new technologies and their practical implementations is immense. This digital wilderness develops and expands at an exponentially accelerating pace. Our perceptions of life are challenged, we have become architects of artificial ecologies, of new and hybrid worlds.

Artistic and scientific research continuously challenge our perspectives on life with philosophical and existential questions, and the artist plays as never before a crucial role as conveyor and interpreter of new knowledge and research.

**The Meta.Morf X – Digital Wild** exhibition presents artists that through their practise explore, study and comment our digital history and future.

*Random Access Memory* is an installation from **Ralf Baecker** (DE) that reflects on the interaction of idea and matter, and their encounter within contemporary information technology.

*Realness – Intimate Garden* by **Sandrine Deumier** (FR) is a video and VR installation that explores possibilities for a future mutant and hybrid nature.

**Disnovation.org** (FR/PL) casts a critical view at unfettered technological innovation through the mixed media installation *Shanzhai Archeology*. The installation presents an extraordinary collection of mobile phones made in China as counterfeit consumer goods. These are hybrid products developed at an incredible speed, merging piracy, reverse engineering, unique creativity and self-taught skills.

**Louis Frehring** (FR) presents *Singing Birds*, a sound installation with computer-generated birdsongs that imitates the ornithological soundscapes found in the vicinity of Trondheim.

I dag, omtrent seksti år inn i den digitale revolusjonen, er en betydelig del av vårt samfunn gjennomdigitalisert. Det digitale domenet har blitt vårt nye habitat, sømløst sammenflettet med oss selv og naturen rundt oss.

Underskogen av nye teknologier og deres praktiske implementeringer er enorm. Denne digitale villmarken utvikler seg og ekspanderer i et eksponentielt akselererende tempo. Våre oppfatninger av livet er utfordret, vi er blitt arkitekter av kunstige økologier, av nye og hybride verdener.

Kunstnerisk og vitenskapelig forskning utfordrer kontinuerlig våre syn på livet med nye filosofiske og eksistensielle spørsmål, og kunstneren spiller som aldri før en sentral rolle som formidler og fortolker av ny kunnskap og forskning.

Utstillingen **Meta.Morf X – Digital Wild** presenterer kunstnere som gjennom sin praksis utforsker, studerer og kommenterer vår digitale historie og fremtid.

*Random Access Memory* er en installasjon fra **Ralf Baecker** (DE) som reflekterer over samspillet mellom idé og materie, og deres møte innen moderne informasjonsteknologi.

*Realness – Intimate Garden* av **Sandrine Deumier** (FR) er en video- og VR-installasjon som utforsker muligheter for en fremtidig mutant og hybrid natur.

**Disnovation.org** (FR/PL) gir et kritisk syn på tøylesløs teknologi-innovasjon gjennom mixed media installasjonen *Shanzhai Archeology*. Installasjonen presenterer en eksepsjonell samling av imiterte mobiltelefoner produsert i Kina, hybride produkter som utvikles med en utrolig hastighet gjennom piratkopiering, unik kreativitet og selvlærte ferdigheter.

**Louis Frehring** (FR) presenterer *Singing Birds*, en lydinstallasjon med datagenererte fuglesanger som imiterer de ornitologiske lydbildene som finnes i og rundt Trondheim.

In her video and internet installation *Eternal U Inc.*, **Kyriaki Goni** (GR) explores a future business model for preserving the memories and experiences of our lost loved ones.

In their mixed media installation, *ArchaeaBot*, **Anna Dumitriu** (UK) and **Alex May** (UK) present a post singularity and post climate change life-form, the "ultimate" species for the end of the world as we know it.

In his 3D objects, videos and digital prints; *Soft bodies, Environmental monitoring system and Quasi-objects*, **Lorenzo Oggiano** (IT) explores synthetic based systems with processual activities conceived in a world of its own.

**Daniel Slåttnes** (NO) has since 2015 investigated possibilities for human-plant communication. *Plant Cyborg*, consists of six plants (*P. Obtusifolia*) where each plant is mounted onto a mechanical device which, based on the output from the plant's own electrical signals, allow them to move freely around.

In her video installation *Orion Tide*, **Kelly Richardson** (CA), teleports us to an undefined planet surface where we observe a phenomena of sudden eruptions of light and smoke we are not given an explanation of. Natural phenomena? Missiles? Rockets? Escape pods? A mass exodus of humanity?

*Proteus 2.0* by **Maria Smigielska** (CH/PL) and **Pierre Cutellic** (CH/FR), is the second version in a series of experiments on modulating matter with the help of combined human and machine intelligence. The installation makes use of ferrofluid, which through its magnetism constantly changes its shape based on electrical signals from human brain activity.

In his video installation, *Scenes from Daily Life*, **Hiroki Yokoyama** (JP) presents us for a future in which humanoid robots blend into our daily lives including possible quirks and failures that may follow.

I sin video- og internett-installasjon *Eternal U Inc.* utforsker **Kyriaki Goni** (GR) en fremtidig forretningsmodell for bevaring av minnene og opplevelsene til våre tapte kjære.

I deres mixed media installasjon *ArchaeaBot*, presenterer **Anna Dumitriu** (UK) og **Alex May** (UK) en post-singular og post-klimaendring livsform, den "ultimate" arten tilpasset verdens ende slik vi kjenner den.

I sine 3D-objekter, videoer og digitale trykk; *Soft bodies, Environmental monitoring system and Quasi-objects*, utforsker **Lorenzo Oggiano** (IT) syntetisk baserte systemer med prosessuelle aktiviteter unnfanget i sin egen verden.

**Daniel Slåttnes** (NO) har siden 2015 undersøkt muligheter for kommunikasjon mellom mennesker og planter. *Plant Cyborg* består av seks planter (*P. Obtusifolia*), der hver plante er montert på en mekanisk enhet som gjør det mulig for planten å bevege seg basert på plantens egne elektriske signaler.

I videoinstallasjonen *Orion Tide*, teleporterer **Kelly Richardson** (CA) oss til overflaten på en udefinert planet der vi blir tilskuere til et fenomen av plutselige utbrudd og eksplosjoner av lys og røyk vi ikke blir gitt en forklaring på. Naturfenomen? Raketter? Redningskapsler?

*Proteus 2.0* av **Maria Smigielska** (CH/PL) og **Pierre Cutellic** (CH/FR), er den andre versjonen i en serie eksperimenter som handler om å modulere materie ved hjelp av å kombinere menneskelig og maskinell intelligens. Installasjonen benytter seg av materialet ferrofluid, som gjennom sine magnetiske egenskaper kan endre form fortløpende, i dette tilfellet basert på elektriske impulser fra menneskelig hjerneaktivitet.

I sin videoinstallasjon, *Scenes from Daily Life*, presenterer **Hiroki Yokoyama** (JP) oss for en fremtid der humanoide roboter er en del av vårt daglige liv, med maskin- og programmeringsfeil som en del av hverdagen.

*Future You* er en interaktiv videoinstallasjon fra

*Future You* is an interactive video installation from **Universal Everything** (UK) that playfully presents us for a unique reflection of the audience's potential, synthetic self. Starting as a primitive form, it learns from your movements to adapt, suggesting an agile, superior version of you.

*The Norwegian Media Art Library (Norsk Mediekunstabibliotek)* by **TEKS**, curator: **Zane Cerpina**, is a collection of printed publications covering the Norwegian media art field. The library represents the most comprehensive documentation of media arts in Norway, both in terms of history, artistic activity, artists, and general developments within the field. *Meta.Morf X – Digital Wild* presents the third edition.

**Universal Everything** (UK) som lekent presenterer oss for publikums potensielle, syntetiske jeg. Med en primitiv form som utgangspunkt, utvikler din avatar seg basert på dine bevegelser, antydende en mer fleksibel og overlegen versjon av deg selv.

*Norwegian Media Art Library (Norsk Mediekunstabibliotek)* produsert av **TEKS**, kurator **Zane Cerpina**, er et bibliotek som tar mål av seg å samle alle trykte publikasjoner som angår det norske mediakunstheltet. Samlingen representerer den mest omfattende dokumentasjonen av mediakunst i Norge, både hva gjelder historie, kunstnerisk aktivitet, kunstnere og den generelle utviklingen i feltet. *Meta.Morf X – Digital Wild* presenterer den tredje utgaven av samlingen.



## DIGITAL WILD: EXHIBITION

### RANDOM ACCESS MEMORY

Ralf Baecker <sup>[DE]</sup>

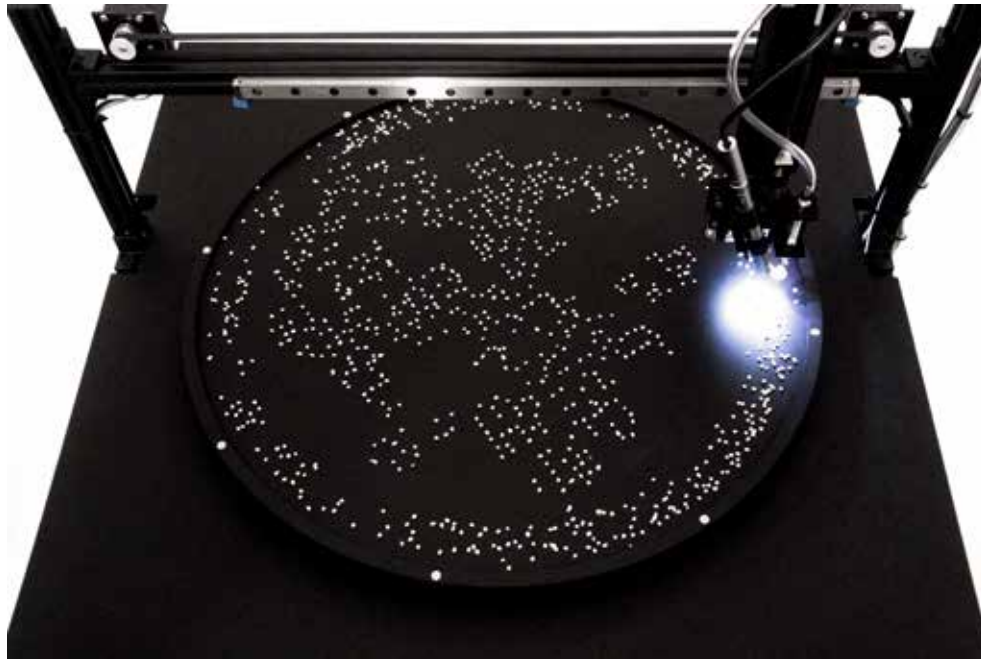


Photo: Ralf Baecker, 2017

*Random Access Memory* is a fully functional digital memory. Instead of operating on semiconducting components to represent either the binary states of 0 (zero) or 1 (one), the memory uses grains of sand as storage material. Sand grains can be read, placed or removed on a rotating disc by a three axis pick and place mechanism combined with a microscope camera to track the position of a single sand grain. This memory mechanism is prone to errors thru misreadings, bouncing grains and other imponderabilities.

Furthermore the machine performs a computational process on this memory. The algorithm, executed on the sand grains, is a so called Turmite, a two dimensional operating Turing Machine. It's only goal it is to write as many 1's (stones) as possible in the memory and to avoid a termination, following a strict rule. This process emerges complex and repetitive pattern on the disc. *R A M* investigates the contrast of a "pure" mathematical process (algorithm) and its "impure" material implementation into the world.

*Random Access Memory* reflects on the interaction of idea and matter and their encounter in contemporary information technology. It forms some kind of hybrid between contemporary and an ancient technology. Computing with sand, Geomancy or 'ilm al-raml (science of the sand) is an old arabic divination technique based on sand grains, or other geological material, that were "casted" on a plane surface. A strict set of rules, recursively applied on the grains get condensed in order to gain knowledge about the future. Nowadays boolean algebra is inscribed into thin layers of purified silicon, another geological material, in order to execute complex simulations like weather prediction on it.

*Produced with support of the Graduate School of the University of the Arts, Berlin with support of the Einstein Foundation.*



Photo: Klaus Waeldele

Ralf Baecker

[rlfbckr.org](http://rlfbckr.org)

Ralf Baecker (b. 1977 Duseseldorf, Germany) is an artist working at the interface of art, science and technology. Through installations and machines, Baecker explores fundamental mechanisms of new media and technologies. In his representations and specializations of

digital and technological processes he offers a poetic sight behind the surfaces of contemporary image making. At the core of his objects lies the entanglement of the virtual with the real, or rather, with the world. With a media-archaeological outlook, Ralf Baecker digs within obsolete devices for traces and functions that are still detectable in technologies today. His work seeks to form a hybrid between contemporary digital methodologies and a material oriented artistic practice. As a result, he understands technology not as a tool but rather as an epistemological instrument, in order to pose elemental questions about a world perceived through technological impressions. Baecker has been awarded multiple prizes and

grants for his artistic work, including the grand prize of the Japan Media Art Festival in 2017, an honorary mention at the Prix Ars Electronica in 2012 and 2014, the second prize at the VIDA 14.0 Art & Artificial Life Award in Madrid, a working grand of the Stiftung Kunstfond Bonn, the Stiftung Niedersachsen work stipend for Media Art 2010 and the stipend of the Graduate School for the Arts from the University of the Arts in Berlin and the Einstein Foundation.

His work has been presented in international festivals and exhibitions, such as the International Triennial of New Media Art 2014 in Beijing, Künstlerhaus Wien, ZKM | Center for Art and New Media in Karlsruhe, Martin-Gropius-Bau in Berlin, WINZAVOD Center for Contemporary Art in Moscow, Laboral Centro de Arte in Gijon, Centre de Cultura Contemporània de Barcelona (CCCB), NTT InterCommunication Center in Tokyo, Kasseler Kunstverein and Malmö Konsthall.

Since 2016 he teaches at the University of the Arts Bremen as Professor for Experimental Design of New Technologies in the Digital Media program.

## DIGITAL WILD: EXHIBITION

### REALNESS – INTIMATE GARDEN

Sandrine Deumier <sup>[FR]</sup>



With her dual philosophical and artistic training, Sandrine Deumier constructed a multifaceted poetry focused on the issue of technological change and the performative place of poetry conceived through new technologies. Using material from the word as image and the image as a word vector, she also works at the junction of video and sound poetry considering them as sensitive devices to express a form of unconscious material itself. The process of writing and the mobile material of the image function as underlying meanings of reflux which refer to the real flickering and to their reality transfers via unconscious thought structures. Her work consists mainly of texts, digital poetry, multimedia installations and audiovisual performances in collaboration with composers.

Sensory immersion in a cybernetic garden, *Realness – Intimate Garden* is the exploration of a possible identification to a mutant nature. At the interstices of an artificial nature and a renatured humanity (artificially reconnected to a prefabricated natural world), these landscapes neither human nor non-human are a dive into an artefact of nature.



Sandrine Deumier

[sandrinedeumier.com](http://sandrinedeumier.com)

Sandrine Deumier is a French artist working in the field of performance, poetry and video art whose work investigates post-futurist themes through the development of aesthetic forms related to digital imaginaries.

## DIGITAL WILD: EXHIBITION

### SHANZHAI ARCHEOLOGY

disnovation.org <sup>[FR/PL]</sup>



The Chinese term shanzhai (山寨) refers to counterfeit consumer goods. This includes imitation, trademark infringement, parody, lookalikes and improved goods, particularly in the field of electronics. A shanzhai (literally shan: mountain, zhai: stronghold) denotes a remote village in the mountains where bandits had once recreated their own form of society, far from the rules of the emperor.

*Shanzhai Archeology* presents an extraordinary collection of mobile phones from this technological interbreeding Made in China. These are hybrid products developed at an incredible speed merging piracy, reverse engineering, unique creativity and self-taught skills.

In this collection, a Buddha Phone, becomes a virtual altar by pressing a special key. The "smallest in the world" or Prisoner Phone is made of 99% plastic and is barely detectable by the authorities. There's the Taser Phone,

marketed as a self-defense weapon, or the Sound System Phone, catering for China's pensioners as it can broadcast loud sound outdoors, being heard above the din of the public dances they love. It also comes with several gigabytes of old-fashioned communist songs that Chinese pensioners are particularly keen on. Other curious devices include strawberry or car-shaped phones, devices with in-built electric razors, lighters, power banks, video projectors and other impressive features.

A profitable business produced by small companies, shanzhai mainly happens out of Western sight, due to regulations that forbid most of these hybrid products to circulate legally across borders. Nevertheless, shanzhai devices fulfil a bespoke need or desire for hundreds of thousands of consumers in countries around the world, not just in China.

At a time when shanzhai might be under threat – following the Chinese government's decision to clean up the country of its counterfeit reputation – this project casts a critical eye at the results of unfettered technological innovation, through the relatively unknown history of the shanzhai.

Positioning this project at the crossroads between art and anthropology, the artists explore the cultural value of shanzhai and the radical otherness of its creative process; an open manufacturing model resulting in singular design solutions outside streamlined market forces and global innovation myths.

– Irimi Papadimitriou, London, January 2018

*Shanzhai Archeology*  
DISNOVATION.ORG (Nicolas Maigret, Maria Roszkowska, Clément Renaud & Hongyuan Qu) 2015-2018  
3D models: Terrell Davis  
Installation, collection, video, research, publication | 2015-2018

With The Support Of:  
CNC Dcream, Design Trust – Hong Kong, Design Society – Shenzhen, Institut Français de Chine, Le Cube – Art3000, Watermans Art Centre

#### disnovation.org: Nicholas Maigret & Maria Roszkowska

[disnovation.org](http://disnovation.org)



**disnovation.org** is a working group based in Paris, initiated by Nicolas Maigret (FR) and Maria Roszkowska (PL/FR). At the intersection of contemporary art, research and hacking, the collective develops situations of disruption, speculation, and debate, in order to question dominant techno-positivist ideologies, and to stimulate post-growth narratives. They edited *The Pirate Book*,

2018, they received a Design Trust Grant (Hong Kong) for a research about China's Shanzhai culture. They are currently visiting researchers at the University of California, Irvine.

Their work has been presented at numerous art centers and festivals internationally such as Centre Pompidou (Paris), Transmediale (Berlin), the Museum of Art and Design (New York), Palais de Tokyo (Paris), FILE (Sao Paulo), ZKM (Karlsruhe), Strelka Institute (Moscow), ISEA (Hong Kong), Elektra (Montréal), China Museum of Digital Arts (Beijing), and the Chaos Computer Congress (Hamburg)... Their work has been featured in Forbes, Vice, Wired, Motherboard, Libération, Die Zeit, Arte TV, Next Nature, Hyperallergic, Le Temps, Neural.it, Dicult, Gizmodo, Seattle Weekly, torrentfreak.com, and Filmmaker Magazine among others.

an anthology on media piracy. Their research includes artworks, curation and publications. In





## DIGITAL WILD: EXHIBITION

# ARCHAEBOT: A POST SINGULARITY AND POST CLIMATE CHANGE LIFE-FORM

Anna Dumitriu and Alex May <sup>[GB]</sup>

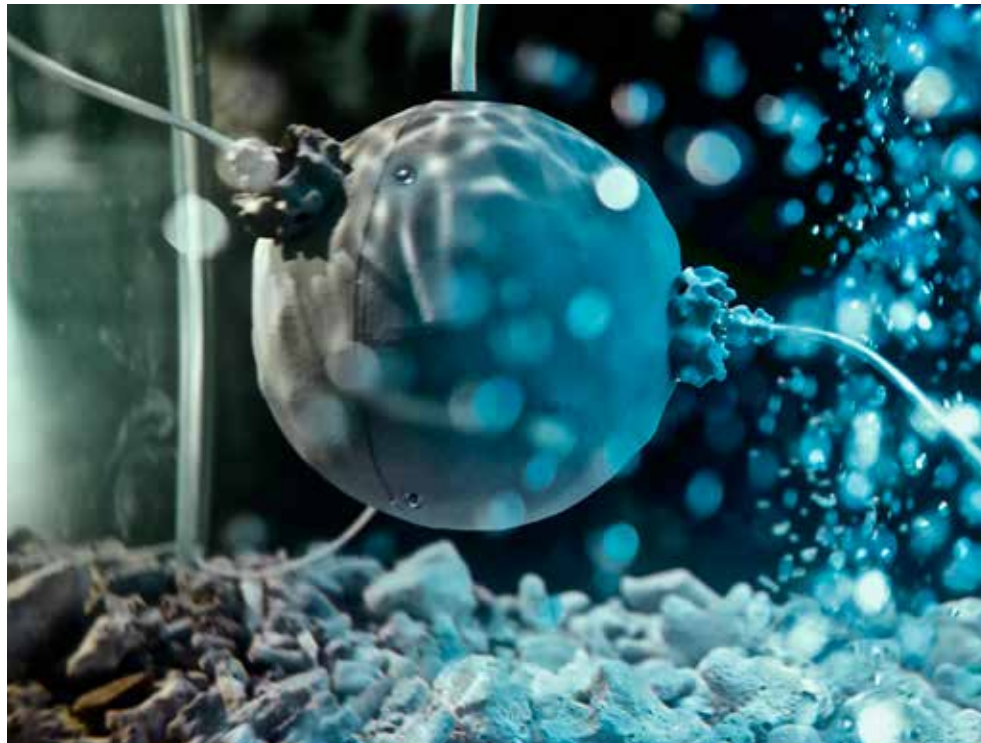


Photo: Alex May, 2018

*ArchæaBot: A Post Singularity and Post Climate Change Life-form* takes the form of an underwater robotic installation that explores what "life" might mean in a post singularity, post climate change future. The project is based on new research about archaea (the oldest life forms on Earth) combined with the latest innovations in machine learning & artificial intelligence creating the "ultimate" species for the end of the world as we know it. New research is revealing the mechanisms by which ancient archaea called *Sulfolobus acidocaldarius* can move around to seek "food" using tails known as archæella. The archæella use cogwheel-like "motors" to swim about. Our collaborator cryo-microscopist Amanda Wilson is studying the structure of these archæella to make tiny drills made of DNA which might be used to drill into cells to cure diseases, but the robotic archæella are made through 3D printing.

The work is made in collaboration with researcher/cryomicroscopist Amanda Wilson as part of the EU FET Open H2020 funded MARA project based in the Beeby Lab at Imperial College London, and with Professor Daniel Polani from the School of Computer Science at the University of Hertfordshire. The project is supported through an EMAP/EMARE artists' residency at LABoral Centro de Arte y Creación Industrial in Spain via funding from Creative Europe and with generous support from Arts Council England. Since its completion in August 2018 the piece has been shown at Ars Electronica Festival 2018 (Linz, Austria), LABoral (Gijón, Spain), Bandits-Mages (Bourges, France) and IMPAKT (Utrecht, Netherlands).

[youtu.be/7q1-g3GSbiE](https://youtu.be/7q1-g3GSbiE)  
[myrobotcompanion.tumblr.com/ArchæaBot](https://myrobotcompanion.tumblr.com/ArchæaBot)



Anna Dumitriu & Alex May

[annadumitriu.co.uk](http://annadumitriu.co.uk)  
[alexmayarts.co.uk](http://alexmayarts.co.uk)

Anna Dumitriu is a British artist who works with BioArt, sculpture, installation, and digital media to explore our relationship to infectious diseases, synthetic biology and robotics. She has an extensive international exhibition profile including ZKM, Ars Electronica, BOZAR, The Picasso Museum, The V & A Museum, Philadelphia Science Center, MOCA Taipei, LABoral, Art Laboratory Berlin, and The Museum of the History of Science Oxford. She was the 2018 President of the Science and the Arts section of the British

Science Association and holds visiting research fellowships at the University of Hertfordshire, Brighton and Sussex Medical School, and Waag Society, as well as artist-in-residence roles with the Modernising Medical Microbiology Project at the University of Oxford, and with the National Collection of Type Cultures at Public Health England.

Dumitriu is a renowned speaker and has presented her work at venues including TATE Modern, Princeton University, Imperial College, La Musée de la Chasse et de la Nature, The Mendel Museum and UCLA. Her work is featured in many books including "Bio Art: Altered Realities" published by Thames and Hudson in 2016 and many other significant publications across contemporary art and science including Artforum International Magazine, Leonardo Journal, The Art Newspaper, Art Quarterly, Nature and The

Lancet. Dumitriu's work has a strong focus on the ethical implications of emerging technologies drawing threads across time, exploring future scenarios by reflecting on the past.

Alex May is a British artist creating digital technologies to challenge and augment physical and emotional human boundaries on a personal and societal level in a hyper-connected, software mediated, politically and environmentally unstable world. He works with light, code, and time; notably algorithmic photography, robotic artworks, video projection mapping installations, interactive and generative works, video sculpture, performance, and video art. Alex has exhibited internationally including at the Francis Crick Institute (permanent collection), Eden Project (permanent collection), Tate Modern, Ars Electronica (Austria), LABoral (Spain), the Victoria & Albert Museum, Royal Academy of Art, Wellcome Collection, Science Museum, Bletchley Park, One Canada Square in Canary Wharf, the Museum of Contemporary Art in Caracas (Venezuela), the Science Gallery in Dublin, Princeton University, University of Calgary (international visiting artist 2016), Texas A&M University, and the Beall Center for Art + Technology, University of California, Irvine.

Alex is a Visiting Research Fellow: Artist in Residence with the School of Computer Science of University of Hertfordshire, and a Digital Media Arts MA sessional lecturer at the University of Brighton.





Photo: Anna Dumitriu 2018

## DIGITAL WILD: EXHIBITION

### SINGING BIRDS

Louis Frehring <sup>[FR]</sup>



Image: Diana Hlevnjak / shutterstock.com

*Singing birds* is a sound installation that presents computer-generated birdsongs imitating the ornithological soundscapes found in the vicinity of Trondheim. The installation tricks the listener into believing that this entirely virtual representation is describing real life. It invites us to rethink our conception of what we call “natural”, and how nature and the representation – or interpretation – in question, might be confounded.



Louis Frehring

[louisfrehring.com](http://louisfrehring.com)

Louis Frehring is a French contemporary artist based in Rennes, France, who works at the intersections of media arts, sculpture and visual arts. Louis Frehring has studied contemporary art at *École Européenne d'Art de Bretagne* at Brest, and

he is currently enrolled in postgraduate studies in Rennes, in collaboration with the contemporary art centre *40mcube*.

His work consists of heterogenous compositions and dispositions that use technology both as a subject and as a medium; it thereby aims to inform the spectator about what technology is and how it works, as well as what it changes in nature, in society and in us.

Through his practice, Louis Frehring seeks to reveal the internal systems that are concealed in the black boxes of technology, thus helping us understand the repercussions that they have on our lives.

His work has earned him grants from several institutions, such as the French Ministry of Culture (2019) and the Swiss foundation *Château Mercier* (2018).

The artist's works have recently been exhibited in France, Canada, Switzerland, Germany and USA. He also writes for magazines and works with cultural institutions, teaching and lecturing for large audiences.



## DIGITAL WILD: EXHIBITION

## ETERNAL U. INC

Kyriaki Goni <sup>[GR]</sup>

Website [eternalyou.online](https://eternalyou.online), Video with audio (04:00)

In this speculative story unfolding in a near future the majority of planet's aging population suffers from various forms of memory loss. Digital dementia is only one of the many manifestations of this modern plague, as some have described it.

Big corporations the so-called attention merchants were extensively bidding for people's free time and attention over the past decades by creating intentionally addictive content on platforms and devices. This resulted to an addicted society with a strong tendency to boredom and procrastination, who eventually collapsed into a state of numbness and subsequently memory loss, having offered their brains as well as their data on the altar of the attention economy. No one proved capable of presenting an effective treatment or cure.

*Eternal U. Inc* a newly launched international company claims to have the solution by utilizing an advanced artificial neural network. The client starting from a young age permits the neural network access to all her personal digital data. If they choose so the dataset can be extended to include dreams, biometric and sensory data. The client/user herself becomes thus the dataset for network's training. The neural network learns from and by the client/user and as soon as she is unable to cope with everyday life the trained neural network replaces her, ensuring the conservation of her memory. The company guarantees security and secrecy, along with a high quality and performance. People went crazy with *Eternal U. Inc*. In less than 24hr thousands of people visited the website and bought the advanced neural networks, which were immediately set to

learn everything about their owners. *Eternal U. Inc* was established as one of the most successful new companies on the field of affective infrastructures.

A video apparently attributed to one of these artificial assistants appears online some years later in 2062 and questions arise regarding the safety of the provided service and its possible consequences both for humans and machines.

**Note:** This work has as its starting point a love story in my family. My grandmother suffers from Alzheimer's disease almost ten years now. I witnessed her gradual memory loss, her difficulty to remember words at the beginning and then eventually syllables, and her long silences due to the lack of the right words. Her caregiver was her 65 years-long partner, my late grandfather.

It was extremely tough for him to accept her condition as well as the subsequent periods of silence between them which were getting longer and longer. In the face of all these problems he remained by her side until his last minute.

*Eternal U. Inc* begun as an artistic research for possible support for family caregivers to cope with the lack of communication in this kind of situations. In the process the emphasis shifted onto the surveillance society and the relationship between humans and machines. I am not sure that my grandfather would approve this idea though, I didn't ask him on time. But I am pretty sure about his answer. Love does not need substitutes.



Kyriaki Goni

[kyriakigoni.com](https://kyriakigoni.com)

Kyriaki Goni is an Athens based artist and researcher. Her work encompasses a wide range of media and it is expressed through expanded and multi-layered installations. With a background both in Fine

and Digital Arts, as well as in Cultural and Social Anthropology, she seeks to connect the local with the global and to critically touch on questions of technology and society interaction, such as privacy and surveillance, control of information, networks and infrastructures, as well as human-machine relationship.

Her works are exhibited in galleries and new media festivals internationally: Aksioma-Institute

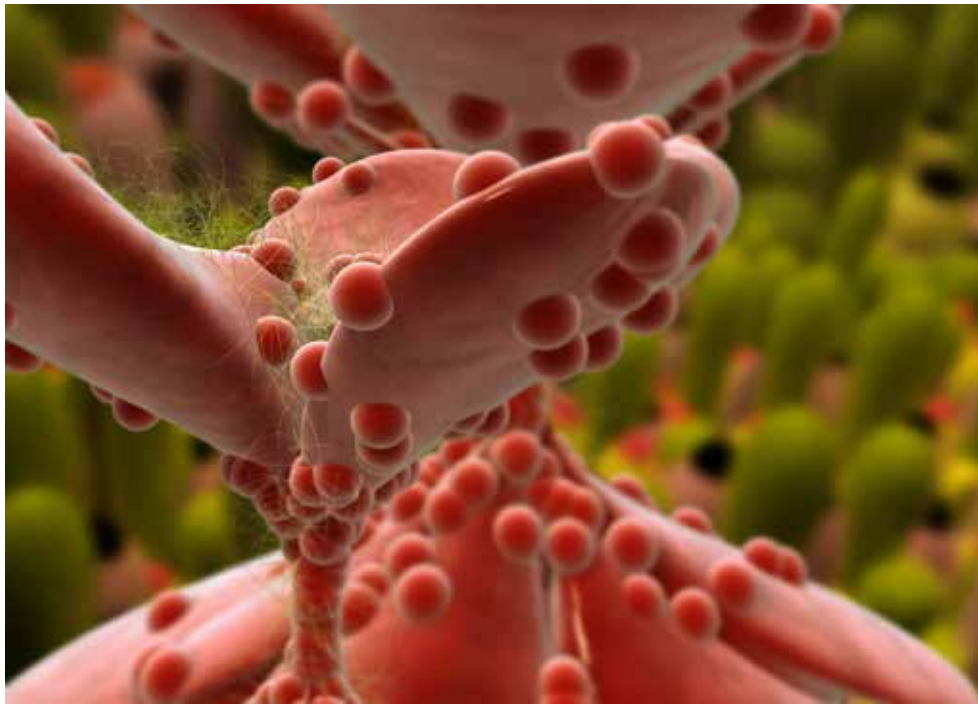
of Contemporary Art, Transmediale, Drugo More, Abandon Normal Devices, Tomorrows-Urban Fictions for Possible Futures, ISEA21, SIGGRAPH2016, IMPAKT, Oddstream etc. In 2019 she was resident to the new program Science Technology Society at Delfina Foundation in London.

A continuous and broad dialogue with audiences is a vital part of her practice, therefore her work includes workshops, talks and essays. Her art paper 'Deletion Process\_Only you can see my history: Investigating Digital Privacy, Digital Oblivion, and Control on Personal Data Through an Interactive Art Installation' has been published on August 2016 on Leonardo Journal of Art, Science and Technology, MIT.

## DIGITAL WILD: EXHIBITION

### QUASI-OBJECTS / ENVIRONMENTAL MONITORING SYSTEM / SOFT BODIES

Lorenzo Oggiano <sup>[17]</sup>



"Quasi-Objects / C-Study #59", Lambda print, ed. of 5, 2008, courtesy the artist

## QUASI-OBJECTS

*Quasi-Objects* (2003–) is an ongoing cycle of works generated with 3D modeling and animation software, actually made of by ten videos / video installations and over onehundred prints and preparatory studies.

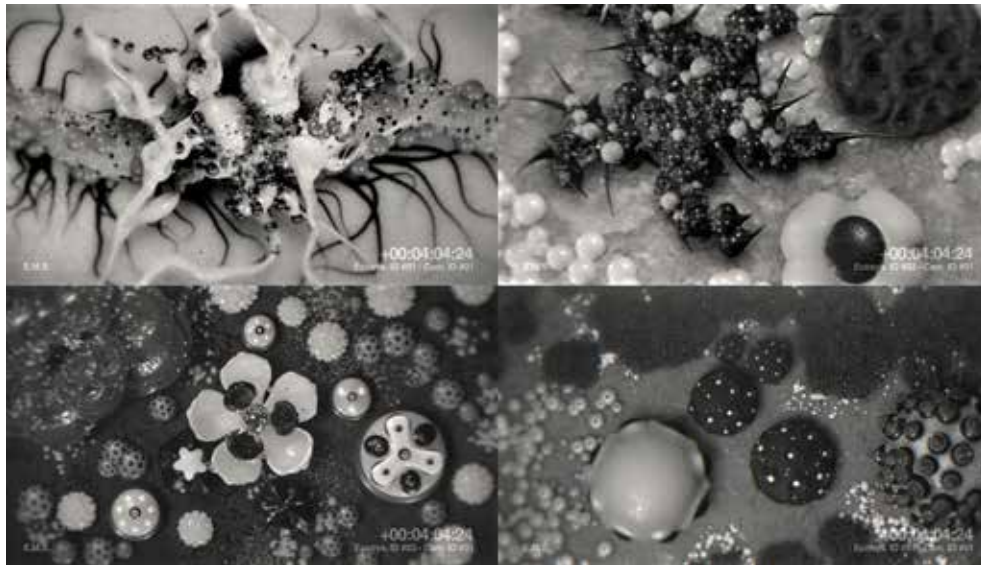
The given title – borrowed from *Nous n'avons jamais été modernes* by Bruno Latour (which in turn refers to some reflections advanced by Michel Serres in *Le Parasite* and *Statues*) – reflected my intention to do precise reference to that "regime of ontological undecidability" that remodeled (progressively and definitively, at least from the second half of the last century) the order of "men and things", our relationship with nature, looking for a nondialectical way of reconciliation with alterity, beyond any stable

representation that preserves the proliferation of difference.

In earlier works my interest had been directed at the process of complexification of the contemporary universes of sense, focusing the attention on the semantic shifts intervened in the subjects/objects relationships through its "pre-figurations" in multiversal forms of existence as output of a process of bio-machinic contamination (*Sample-Kit*, 2002–2003) or in a multilayered vision of body geographies achieved by means of the plastic coexistence of object-based and project-based instances (*Operative Systems*, 2003). *Quasi-Objects* followed the same research path processing its "synthetic-combinatory genesis as an operative advantage within a practice of

organic re-design intended to stimulate thought about the progressive relativization of natural forms of life as result of techno-biological evolution.

As entities coming from numerical procedures – through which the signification process is given in the non-existence of ontological referents – synthetic images, by shifting attention from the "image" itself to its embodied "knowledge-quota" (from output to process) contributes to make us aware of our relationship with the "reality", looking at the meaning of life in terms of a real and autonomous process disjoint from any specific material manifestation, a generative grammar independent from the holding (s)object. *Quasi-Objects* concerns data actualization, the production of biologically a-functional (biopolitically dysfunctional) occurrences, dealing about life without regard to the outcomes it recognizes, transient outputs of an operative practice: aesthetics of process.



"Environmental Monitoring System", 4-channel AV installation, full-HD Pal, color, stereo, 06:00 mins each, infinite synchronous loop, ed. of 4+1 AP, 2016, courtesy the artist

## ENVIRONMENTAL MONITORING SYSTEM

*Environmental Monitoring System* (2016) is a four-channel AV installation – accompanied by two sets of limited edition prints – conceived as a simulation of a multi-camera monitoring system aimed to document the real time dynamics of four complex ecosystems.

Produced with 3D modeling / animation software and digital sound generation tools, the project aims to be a further reflection on the relationships between ecosphere, technosphere, and biological / sensorial / cognitive mutations; more precisely it takes back and re-elaborates the path I have undertaken with the *Quasi-Objects* cycle (2003 / ongoing) and, more recently, with the *Polymorphic Systems Studies* (2012, 2014 / 2015), concerning the progressive relativization of the life-forms – and of the concept of life itself – as notable consequence of technological evolution.

In *Quasi-Objects* I worked on redesigning organisms and ecosystems, exploiting the synthetic and combinatory genesis of the CGI as an operative advantage that – subordinating the classical theory of representation (its "optical-discursive apparatus") to an aesthetics of process in which the sensorial outcome refers to the anoptical procedures that made it available – led to state the opportunity of thinking the living being as a dynamic topology of relationships between processes, as an abstract and transitory product of an organizational dynamic independent by any physical, material component.

Toward the same direction with the *Polymorphic Systems Studies* I introduced the concept of polymorphism – seminally investigated between 2001 and 2003 with the 20 photographic panels belonging to the *Sample-Kit* series. Looking at the overcoming of the mutationselection balance

model as leading cause of the evolution process, in favour of a pluralistic /non-gradualistic point of view, that interpret the evolutionary discontinuity as product of the complex iteration between different systems, between geological and ecological hierarchies, and by means of processes of hybridization with alterity (symbiosis, co-evolution, biomachinic contamination, etc.) other figures of subjectivity, as mobile / recombinant assemblage of heterogeneous entities, have been proposed.

In *Environmental Monitoring System* I took back and re-developed the previously mentioned issues, working at the same time on the spatial-temporal dimension (with interventions on the simulation syntax) and on the architecture, the dynamics, the morphologies of the ecosystems and of the actualized synth-organisms. On the one hand the simulation of an environmental monitoring system, in addition to influences "quantitatively" the device operational capabilities – that works in an iterative mode, since what is simulated are both the system itself and the virtually monitored space-time portions – regulates "qualitatively" its semantic value, referring to a specific instrumental practice of documentation / control of reality (optic, "objective and objectifying"); on the other, actors and synthetic sceneries are shaped and articulated (animated, soundtracked) in order to reinforce the connoted perspective and, overall, to optimize potentials sense paths.

*Environmental Monitoring System* is therefore intended as a contribution to a reflection on the epistemic statute of synthetic imagery opening up to wider questions regarding the relationships between sensorial orders, levels of rationality, figures of subjectivity, cosmologies.

My invitation is to reconsider the weight and implications of a scenery in which the "informatic image" can be seen as an unstable intermeditation area between convergent systems. Not only immaterial abstractions of increasing complexity and plausibility which finds in technology their theoretical development limit, but liquid interfaces of connection / conversion between domains of (co)existence, between "realities" whose distance (difference) gets progressively blurred, contributing to reveal the impracticability and inadequacy of those anthropocentric cosmologies that, for a long time, are relentlessly deconstructing themselves in the relationships with sciences, technologies and everyday experience.

In this direction, the abandonment of the classical epistemological framework – based on a mechanistic-representationist model – in favor of a systemic-constructivist approach through which to leave the complexity reduction apparatuses that still dominate the different disciplines and the common thought, opening up to perspectives that are alternatives to any teleology of modernity, it's a prerequisite for the practices of a techno-social ecology that allows our species a conscious coexistence with alterity.

It's not (only) a matter of putting the human within a complex and heterogeneous net of fluxes and relations but, rather – assuming the reciprocally constitutive relationship between observing and observed systems, the erosion of the boundaries between subject and object, the combinatory role played by technologies – to finally distract him from its own epistemological, ontological, ethical supremacy, bringing him back to the same side of the other living beings, and of the "objects without soul", as terminal of a constructed and pluriversable multiverse, not embraceable with a single gaze.





"Soft Body #02", digital C-type print, ed. of 3+1 AP, 2016, courtesy the artist

## SOFT BODIES

*Soft Bodies* (2016– ) is an ongoing series of digital c-type prints coming from some hi-poly 3D modeling studies I made from 2015 onwards.

The aim of the project is to continue / deepen my research on synth-organic morphologies by generating a set of detailed, hi-res prints digitally

colored during the post-production phase to achieve a better photorealistic effect.

From the beginning of this year I started the production – still in an experimental phase – of 3D printed sculptures "in-formed" by some of the series' 3D modeling files.



Lorenzo Oggiano

[lorenzooggiano.net](http://lorenzooggiano.net)

Lorenzo Oggiano (b. 1964, Padua) is an Italian interdisciplinary artist working in new media, video, video installation, photography, assemblage, sculpture.

He holds an MA cum laude in Visual Arts from the University of Bologna / D.A.M.S., with a dissertation on the relationship between arts and new technologies. Since the early 1990s Lorenzo Oggiano dedicated his artistic and theoretical research on the concepts of nature and life, questioning relationships between technologies, registers of rationality, production of subjectivity, cosmologies, focusing on the morphology and dynamics of organisms and ecosystems, on the concept of space and on space-time interrelations.

Oggiano's work has been presented – among others – at Pratt Manhattan Gallery (New York, USA), National Museum / WRO Art Center (Wroclaw, PL), Ars Electronica Center (Linz, AT), Cinémathèque Française (Paris, FR), Eyebeam Art+Technology Center (New York, USA), Naturhistorisches Museum (Wien, AT), Kyoto University (Kyoto, JP), Centro per l'Arte Contemporanea Luigi Pecci (Prato, IT), Kunsthaus Dresden (Dresden, DE), Palazzo dei Congressi (Rome, IT), CCCB (Barcelona, ES), Art-Science Node (Berlin, DE), MAN\_Museo d'arte della provincia di Nuoro (Nuoro, IT), Traffic Gallery (Bergamo, IT), FilmBase (Dublin, IRL), Museo Nacional Reina Sofia (Madrid, ES), Museo Nazionale del Cinema (Turin, IT), Röda Sten Konsthall (Göteborg, SE), Directors Lounge (Berlin, DE), DAS Dispositivo Arti Sperimentali (Bologna, IT), The Cleveland Institute of Art (Cleveland, USA), Cartes Centre of Art and Technology (Espoo, FI), Rebecca Container Gallery (Genoa, IT), Protein Gallery (London, UK), Hong Kong Space Museum (Hong-Kong, CN), Technopolis (Athens – GR), Rialto Sant'Ambrogio (Rome, IT), Le Cube (Issy-les-Moulineaux, FR) – and can be found in several public and private collections.

Interviews, articles and reviews about his work has been featured on Flash Art, Vice, Rhizome, Dicult, Computer Arts, Viewpoint Magazine, Arch20, Arte, Kult Magazine, Digital Photography+Design Magazine, Trend Hunter, DatalNature, 3dwasp, Anti-Utopias, Journal du Design, Nova 24, TheCreatorsProject, Il Fotografo, Espoarte, Random Magazine – and in several catalogues, essays, publications.

Since 1998 he lives and works in Sassari (Italy).



## DIGITAL WILD: EXHIBITION

### ORION TIDE

Kelly Richardson <sup>[CA]</sup>



Quiet stillness and spectacular drama, mesmerising beauty and unnerving strangeness, hard science and creative fiction: artist Kelly Richardson brings these dualities together in works of calculated tension and ambiguity. Her immersive video installations offer imaginative views of the future that are plausible enough to prompt careful consideration of the present.

In making her artwork, Richardson takes cues from 19<sup>th</sup>-century painting, 20<sup>th</sup>-century cinema and 21<sup>st</sup>-century scientific inquiry. One can compare her evocative use of colour and light to that of romantic landscape painters J.M.W. Turner and Albert Bierstadt. Her slow, eerie scenes recall moments in popular films just before or after alien attacks, nuclear battles or apocalyptic storms. Hyper-realistic details in her videos reveal the work of a meticulous researcher, interested in both natural phenomenon and human invention.

Much of the artwork that Richardson creates could be labeled science fiction. She acknowledges that she sees the genre as “one of the best tools we have to visualise and experience, to some degree, what life might be like.” And she argues that, “given the predicted fallout of the climate crisis, there has never been a more important time to visualise our potential futures.”

In her video installation *Orion Tide*, what are those sudden eruptions of light and smoke? Missiles? Rockets? At whom or what are they being launched? Who or what are they carrying? Is this the departure of explorers, off to bravely pioneer a new world? Or, is this the escape of refugees – a mass exodus of humanity? The artist deliberately leaves these questions unanswered.



Photo: Colin Davison/  
rosellastudios.com

#### Kelly Richardson

[kellyrichardson.net](http://kellyrichardson.net)

Recognised as one of the leading representatives of a generation of artists working with digital technologies to create hyper-real, highly charged landscapes, Kelly Richardson has been widely acclaimed in North America, Asia and Europe. Recent one person exhibitions include Dundee Contemporary

Arts, SMOCA, CAG Vancouver, VOID Derry, Naturhistorisches Museum Wien and a major survey at the Albright-Knox. Her work was selected for the Beijing, Busan, Canadian, Gwangju and Montréal biennales, and major moving image exhibitions including the The Cinema Effect: Illusion, Reality and the Moving Image at the Hirshhorn Museum and Sculpture Garden (Washington, USA). Her video installations have been included in the Toronto International Film Festival as part of Future Projections (2012), Sundance Film Festival in New Frontier (2011 and 2009) and in 2009, she was honoured as the featured artist at the Americans for the Arts National Arts Awards.

Richardson's work has been acquired into significant museum collections across the USA, UK and Canada, from the Hirshhorn Museum and Sculpture Garden, SMOCA and Albright-Knox Art Gallery to the National Gallery of Canada, Art Gallery of Ontario, Musée d'art contemporain de Montréal, Arts Council Collection (England) and the Towner.

Kelly Richardson was born in Burlington, Ontario, Canada in 1972. She currently lives and works as a visitor on the traditional territory of the WSANEC peoples of the Coast Salish Nation on Vancouver Island, Canada. She is Associate Professor in Visual Arts at the University of Victoria.



## DIGITAL WILD: EXHIBITION

### PLANT CYBORGS (2015– )

Daniel Slåttnes <sup>[NO]</sup>



In 2015 I started off an artistic collaboration with a houseplant. The plant, an ordinary baby rubber plant (*P. obtusifolia*) happened to sit on my desk when I asked "What is life?" Personally I think life is what happens in the connections in-between with other beings. I have connections with people, animals, even a mountain or place. I wondered how much I could grow a connection with this plant.

I started simply by spending time with the houseplant. We sat together for long periods and I meditated on what we have in common, its characteristics, my impressions of it. I visualized my breath through my lungs and the same air going through the plant's stomata. This grew a bodily connection. I discovered that we have another commonality in the biosignals going through our bodies. By amplifying the electrical signals via electrodes on my scalp and on the plant's leaves,

we could listen to each other's vibrations. During the experiments on the plant's electrophysiology, I wondered if the plant could be taught to move a robotic prosthesis. It would help the collaboration tremendously if we could be on the same time scale. After a lot of work with programmers, data scientists and electrical engineers we managed to give the plant a prosthesis that reacted to its biosignals with the help of machine learning.

It's a challenge to try to communicate with a being so far from oneself. On the other hand, we communicate with signals all the time both consciously and mechanically. Now we discover that other species also communicate with discrete signals. Can we learn to make the signals of Others, like plants, give resonance in us?



Daniel Slåttnes

[slaattnes.com](http://slaattnes.com)

Daniel Slåttnes (b. 1986) lives and works in Oslo (NO) and Västra Ämtervik (SE). He holds a degree in Master of Fine Arts from the Oslo Academy of the Arts (2014). The graduation project "Meditations over form" is an archive that dealt with strate-

gies for sculpting with subconscious choices. Recent exhibitions include *Vegetal Connections* at Atelier Nord in Oslo, "Anthro-botanical investigations from the studio" at Gallery Hans in Ørland, *Consciousness in the Time of Kairos* at Kurant in Tromsø (in collaboration with Sara Rönnbäck and Hans Edward Hammonds), *Conversation Between Bodies* (together with Sara Rönnbäck) at the Art Museum of Nord-Trøndelag and Aldea Center for Contemporary Art in Bergen; *Seances with Materials* at Podium in Oslo and Hotel Pro Forma in Copenhagen and Platform 1-12 in Slovakia. Upcoming exhibitions at RAM Gallery in Oslo, Oppland Art Center, Arteriet in Kristiansand, and "Tree Talks" curated by LATERNA in collaboration with Black Box Theater in Oslo.

In recent years, Slåttnes has worked with physical and emotional connections to other people, non-humans and sculptures, with an interest in understanding oneself in relation to the outside world. His interest in communicating with things may stem from the feeling that even humans are basically strangers to each other. He explores in several of his works various possibilities to establish a kind of communication with the materials he works with. The meeting between plant and machine is a distinct focus as they are both on the outskirts of what we perceive as conscious life, beyond human recollection. Since 2015 he has explored plant consciousness in collaboration with a houseplant. *Vegetal Connections* (2018) at Atelier Nord revolved around the biosignals of three houseplants from his studio. For the past four years he has also worked on the idea of material consciousness in collaboration with Sara Rönnbäck through the project "Conversation between bodies".

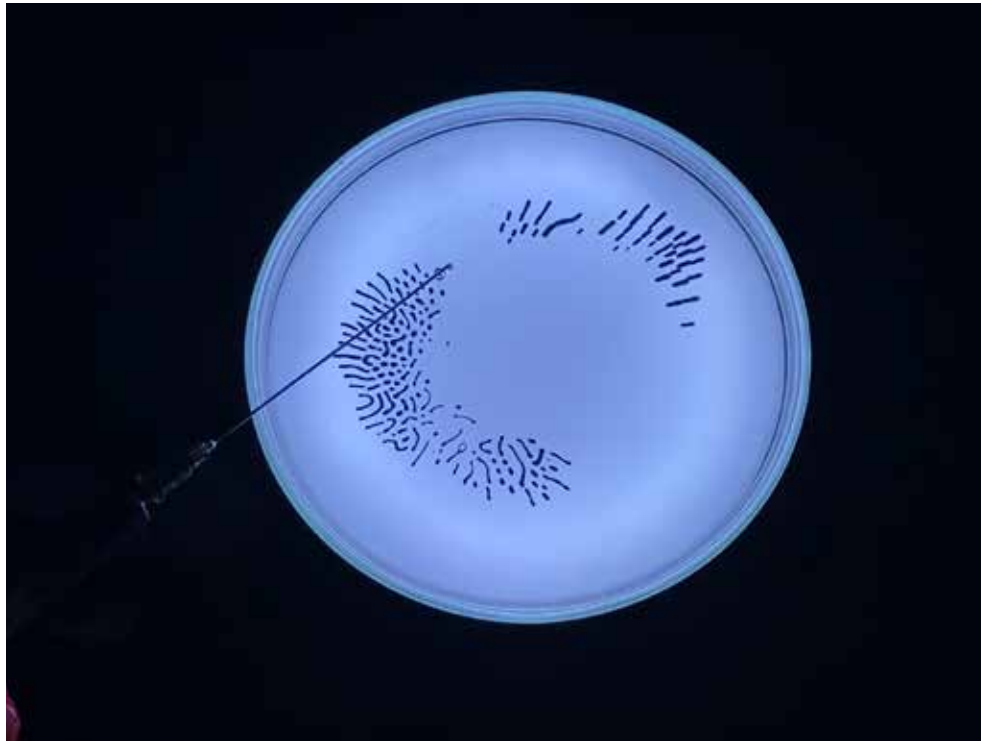
Member of NBK, UKS, BONO



## DIGITAL WILD: EXHIBITION

### PROTEUS 2.0

Maria Smigielska <sup>[CH/PL]</sup> & Pierre Cutellic <sup>[CH/FR]</sup>



*Proteus 2.0* is the second version in a series of experiments on modulating matter with both human and machine intelligences. It employs the complex behaviour of ferrofluid material, which through magnetic fields, constantly changes its shape, from dots to meandering stripes and coagulated regions. Visual exposure to such a black and white graphic pattern is used as an apparatus to understand human intelligence, that of making meaning in a constantly changing flow of images of unpredictable symbolic relations.

The exhibited installation recalls an experiment run during the Ars Electronica Festival 2018 by presenting an artefact of the experiment's interaction with the audience. As a hybrid analog and digital display, it is a low resolution device with grid based magnetic actuators that modulate highly sophisticated and no-end resolution ferropixels. This instrument inferred

on digitally-encoded material properties with the use of a computational mixture of both human neural patterns and machine vision. Through an individual and prolonged visual experience, the visitors were brought into an implicit and intimate interaction with the material with the use of a custom, gaze-based, brain-computer interface. A pre-trained machine learning model was fed with real-time neural signals produced by the visitor's gaze while being exposed to the rapid serial change of patterns. During about 15 mins of gazing, visitors would witness a certain stabilisation of the ferrofluid pattern based on their own brainwave signals.

Just like the greek god Proteus was capable of assuming many forms, the formal representation of this idea in a project follows the ever-changing nature of the ferrofluid. It has iteratively evolved during the artistic research, software/hardware

developments and explorations of varied modes of interaction, yet it always revolves around the same questions and amplifies the body of the project.

*Project team:*  
Maria Smigielska  
Pierre Cutellic

*Fabrication support:* Daniel Nikles  
*Production support:* TEKS – Trondheim Electronic Arts Centre  
[mariasni.com/proteus](http://mariasni.com/proteus)



#### Maria Smigielska & Pierre Cutellic

[mariasni.com](http://mariasni.com)  
[compmonks.com](http://compmonks.com)

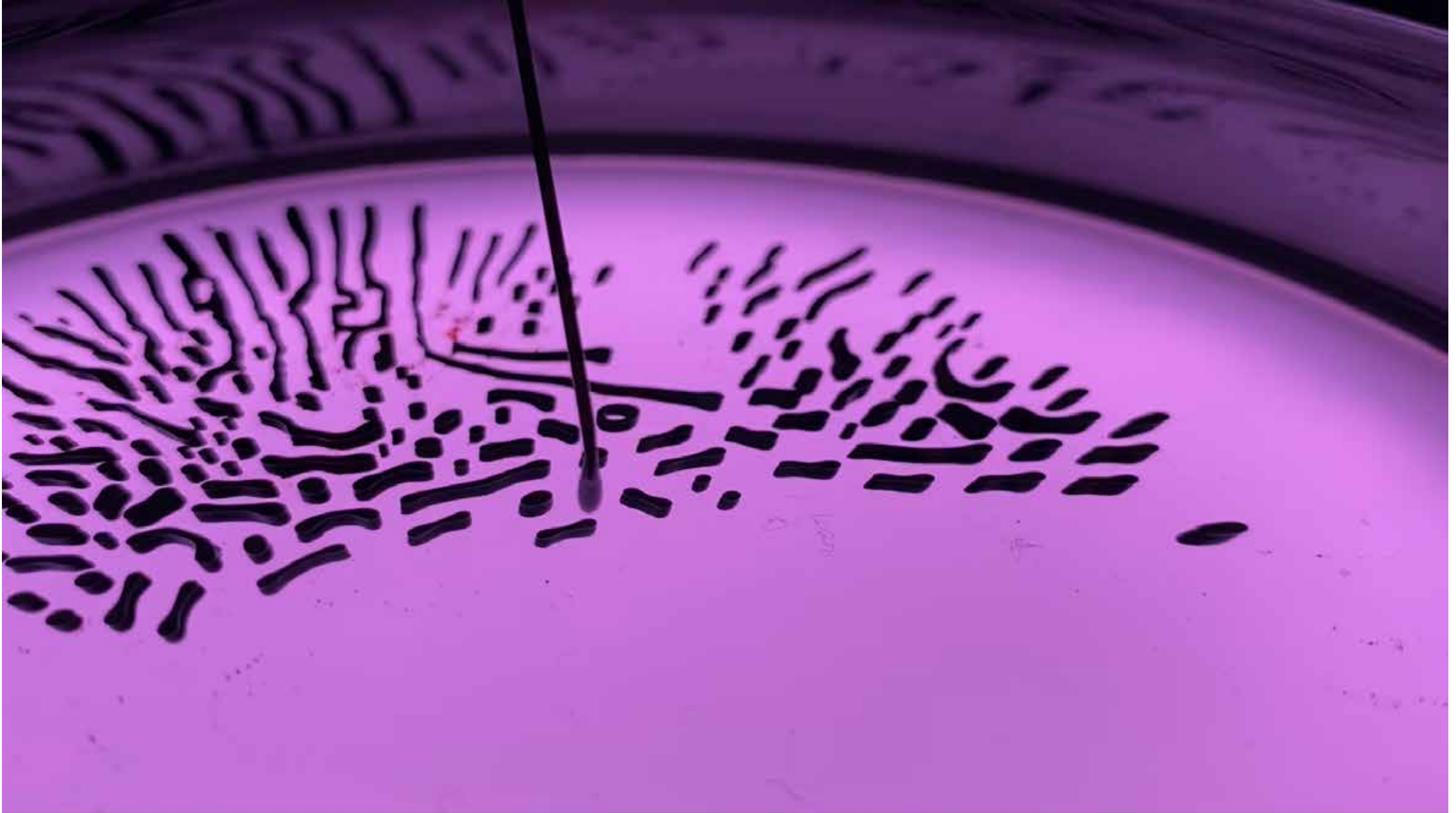
**Maria Smigielska**  
MSc Arch, MAS ETH  
CAAD

Maria is an architect and researcher educated in Poland (TU Poznan) and Switzerland (ETH) and based in Zurich. Her interest lies in the enhancement of creative potentials through automated procedures in design and architecture. Her recent work is focused on holistic approach of computational design, machine learning for knowledge encapsulation (f.ex. material knowledge in robotic rod bending – [bendilicious.com](http://bendilicious.com)), as well as robotic procedures for post-industrial fabrication, performative and interactive processes. Her work is conveyed through talks, publications, educational workshops and frequent exhibitions, with the most recent ones at Tallinn Architecture Biennale 2017 or Ars Electronica Linz 2018. She currently works as a researcher at FHNW Integrative Design Basel and runs her design practice in Zurich.

**Pierre Cutellic**  
Phd Fellow, Architect DPLG – FR  
cand. Dr Sc. ETHz

Pierre is an architect, designer and researcher educated in France and based in Zürich. He is currently a Phd Fellow at CAAD, ETH Zürich researching on neurotechnologies, machine learning, cognitive science, perceptual and cognitive curation. His recent projects focus on interfacing human cognitive visual discrimination patterns found in neural activity, together with generative design models, to create closed computational loops of inference for new modelling technologies. His work and research has been published and exhibited frequently in Europe since 2010. Most recent appearances include exhibitions of his art and design work at Art Electronica Festival 2018, and the upcoming Exhibition "Neurons" at Centre Pompidou Paris in February 2020.





## DIGITAL WILD: EXHIBITION

### FUTURE YOU

Universal Everything <sup>[GB]</sup>



How do you feel when you see a synthetic version of yourself?

In *Future You*, you are faced with a unique reflection of your potential, synthetic self. Starting as

a primitive form, it learns from your movements to adapt, suggesting an agile, superior version of you. This artwork evolves, creating a new visual response for each visitor, generating thousands of possible variations.



*Matt Pyke, Creative Director and Founder, Universal Everything*

#### Universal Everything

[universaleverything.com](http://universaleverything.com)

Universal Everything is a global collective of video artists, experience designers and future thinkers. We collaborate with pioneering brands and institutions to develop video artworks and immersive

installations, to illuminate iconic architecture, and to produce major launch events. Our artworks are exhibited by museums and galleries worldwide, held in the Borusan Contemporary Art Collection and Odunpazarı Modern Museum collection, and our VR explorations have premiered at Sundance Film Festival. A monograph on Universal Everything was published by Unit Editions in 2019.

## DIGITAL WILD: EXHIBITION

### SCENES FROM DAILY LIFE

Hiroki Yokoyama <sup>[JP]</sup>



*Scenes from Daily Life* depicts a future in which humanoid robots blend into our daily lives. In such a world, even their malfunctions would be

mundane events. The film can also be seen as a critique of our modern life where people rely on digital technology a great deal.



**Hiroki Yokoyama**

[hirokiyokoyama.com](http://hirokiyokoyama.com)

Hiroki Yokoyama is a Japanese designer and filmmaker whose work explores how everyday life in the future or in alternative worlds is changed by existing, emerging, and speculative technologies. He is especially interested in

the blurred boundaries between reality and fiction in mundane daily events.

After gaining a B.Eng. Design Engineering from Chiba University in Japan, he started working in a film production company and directed TV commercials, music videos, and short films. After working in the industry, he moved to London to study critical design and speculative design in the Design Interactions programme at the Royal College of Art, London. After completing an MA from RCA, his films have been exhibited and screened internationally at museums, art venues, and film festivals, such as the Design Museum (London, UK), the Southbank Centre (London, UK), the South London Gallery (London, UK), V2\_Lab for the Unstable Media (Rotterdam, NL), Berlin Short Film Festival (Berlin, DE), Short Shorts Film Festival & Asia (Tokyo, JP), Sci-Fi-London Film Festival (London, UK), Other Worlds Austin SciFi Film Festival (Austin, U.S.), Shift Film Festival (Maastricht, NL), and Filminute Film Festival.

He currently lives in Tokyo and recently completed an artist in residence programme at the BankART in Yokohama, Japan.



## DIGITAL WILD: EXHIBITION

### THE NORWEGIAN MEDIA ART LIBRARY

Curator: Zane Cerpina / Producer: TEKS

[temporarylibrary.no](http://temporarylibrary.no)



#### ABOUT THE PROJECT

*The Norwegian Media Art Library (Norsk Mediakunst Bibliotek)* is a collection of printed publications covering the Norwegian media art field. The collection represents the most comprehensive knowledge and documentation of media arts in Norway, in terms of history, artistic activities, artists, and developments within the field.

The project shows the media art field's important role in the Norwegian art scene. The library contributes to further development of the Norwegian media art field by providing a solid basis of the field's history in one complete archive. The project also encourages the growth of publishing, which is necessary for future developments in the field.

*The Norwegian Media Art Library* is produced and maintained by TEKS – Trondheim Electronic Arts Centre. The full collection is available for viewing at TEKS.studio in Trondheim, and by agreement,

can be lent out to relevant exhibitions and show-cases in Norway.

Preservation of digital art relies heavily on the lifespan of technologies used to create the work. The hardware and software of digital artworks frequently face updates and eventually grow obsolete. These aspects render the preservation of the digital art field a challenging task. Visual and textual documentation, as well as publishing, therefore, plays a significant role in preserving knowledge about the achievements in the field.

*The Norwegian Media Art Library* contains printed material about some of the wildest artworks and events realized in the media art field in Norway. The collection allows us to search through the history of three decades of visual and textual documentation about wild experiments done in the media art field in Norway.

# NORSK MEDIAKUNST BIBLIOTEK

#### THE FIRST EDITION 2018

The first edition of the *The Norwegian Media Art Library* (initially titled *The Temporary Library of Norwegian Media Art*) was produced and launched for the 5th Trondheim International Biennale for Art and Technology – Meta.Morf and it consisted of 103 printed publications, released between 1992 and 2018. The first edition was curated by Alessandro Ludovico (concept author of the "Temporary Library"), Stahl Stenslie (NO), and Zane Cerpina (NO/LV).

#### THE SECOND CURRENT EDITION 2019

The second and current edition has been updated with 44 new titles, setting the current total number of publications to 147. It was launched during FAEN – Female Artistic Experiments Norway – a three-week exhibition and symposium program at Atelier Nord gallery in Oslo, October 2019. During the production period of FAEN, *The Norwegian Media Art Library* was utilized as a resource to uncover important contributions, artistic activities, and achievements by female artists in the field.

#### THE NORWEGIAN MEDIA ART LIBRARY AT DIGITAL WILD – THE THIRD EDITION

During Digital Wild exhibition the library will be divided into three collections: i) Digital Wild, ii) PNEK publications, iii) Individual contributions.

i) *The Norwegian Media Art Library* at Meta.Morf 2020 celebrates the digital wild artworks documented within the collection.

ii) PNEK publications explore the printed material produced by PNEK – Production Network for Electronic Art, Norway. PNEK network has been active for 20 years and has an essential role in the *The Norwegian Media Art Library* project. PNEK member nodes have altogether contributed with 90 publications – producing around 60% of all the material within the library. The published material includes many serial publications, such as exhibition and conference catalogs, individual books, and yearly reports. The many serial publications help to ensure an in-depth ongoing archival coverage of the field, not only exposing individual works and artists but also showing long term developments and changing patterns of the art field over an extended period.

The exhibition also includes a newly developed digital archival platform by BEK – Bergen Centre for Electronic Art showing the activities at BEK over the past 20 years.

iii) Individual contributions at the library document the wide variety and stunning creativity in the field of media arts in Norway over the past three decades.

During the show, we welcome new donations of books, catalogs, magazines, and other relevant printed material. The contributions will be included in the *The Norwegian Media Art Library* online archive and the next edition of the printed catalog.

# PNEK NODES

## Art Republic [artrepublic.no](http://artrepublic.no)

Art Republic is a platform dedicated to art and new technology in public and online space. The platform explores the expanded cinematic experience, and the relation between image, sound and architecture. The platform curates and commissions moving image, interactive (immersive) site-specific art installations, and performances. It also offers residencies, public talks and an online journal. One of Art Republic's main projects, is the Screen City Biennial (SCB) in Stavanger, the first Nordic Biennial dedicated to the expanded moving image in public space, presents artworks that explore the relation between the moving image, sound, technology and public space.

## Atelier Nord [ateliernord.no](http://ateliernord.no)

Atelier Nord is a platform for contemporary art with a focus on media art. Atelier Nord shows a program of exhibitions, screenings, performances and workshops in the gallery space in the Grünerløkka neighborhood of Oslo. Atelier Nord facilitates art production by offering a studio for audio and video editing. In addition to the gallery space, they also use the office space for artist talks, screenings, and smaller exhibitions.

## BEK – Bergen Centre for Electronic Arts [bek.no](http://bek.no)

BEK is an interdisciplinary centre for the development of art and new technology. We aim to extend the field of electronic art through collaboration, critical reflection and the sharing of knowledge. BEK initiates and develops projects within the fields of art and technology that are experimental, creative and shareable. We offer our expertise through supervision, project management, and training. Our studios and project rooms are used for audio and video recording and editing, integration of technology in art and the development of spatial art practices. We actively support artists by initiating, producing

and presenting art projects, and assist in finding partners for exhibitions, concerts and art events.

## Dans for voksne [dansforvoksne.no](http://dansforvoksne.no)

Dans for voksne has in the past 15 years put on more than 300 concerts, performances, and workshops in the field of noise, experimental, improvised or baroque music, gradually. In addition to this, they have been involved in projects with artists from different fields, for example in their low-frequency music project by deaf and deaf-blind people and the ongoing project *DNA? AND?*. The project is a collective where children with special needs play improvised music with professional musicians, with annual workshops and more frequent gigging. They have played at various festivals for improvised or experimental music, such as All Ears (Oslo), Blow Out (Oslo) and Sonic Protest in Paris.

## i/o/lab – Centre for Future Art [iolab.no](http://iolab.no)

Based in Stavanger, i/o/lab has since 2001 promoted artistic projects that explore the interplay between new technology, science, bioart, and social context. i/o/lab contributes as a resource through presentations, productions and as a partner in the field, both nationally and internationally.

*"We need to speculate about what consequences development may bring, both technological development and art pushes boundaries and redefines a new understanding of how we think and feel. Moving towards a holistic approach embracing ecology, ethics, and creativity we might be better equipped to describe and shape the new world."*

## Lydgalleriet [lydgalleriet.no](http://lydgalleriet.no)

Lydgalleriet is an exhibition platform for sound art and sound-related art practices, situated in Bergen, Norway. We explore today's plethora

of experimental sound-based art practices and auditive cultures through gallery shows, concerts, workshops and interventions in public space. Lydgalleriet was initiated by a group of musicians, sound artists and art historians in 2005 and founded formally in 2007. Lydgalleriet is managed by its artistic director and board, and funded by Arts Council Norway and Bergen city council.

## Notam [notam.no](http://notam.no)

Notam is the Norwegian centre for technology, art and music. We are a centre for professional artists who work with art, music and technology. We are part of the whole process from idea to execution. Our main activities are: help in the creative process, research and development, education and presentation of art. Helping in the creative process is the main area of interest for Notam. Our competences cover programming, physics, research, sound engineering and art. We use these to develop solutions and projects in collaboration with artists.

## Piksel [piksel.no](http://piksel.no)

Piksel is a distributed network of artists and developers, and an annual festival for electronic art and technological freedom, organised in Bergen, Norway. The festival involves 50–60 participants from more than a dozen countries each year; exchanging ideas, exhibiting and presenting art and software projects, hosting workshops, offering performances and discussions on the aesthetics and politics of free and open source software, DIY/open hardware and art.

## TEKS – Trondheim Electronic Arts Centre [teks.no](http://teks.no)

TEKS is a non-profit organisation founded in Trondheim in 2002. The organisation is a resource and competence centre that aims to produce and convey techno related art projects within all art disciplines. TEKS is the founder and

organiser of the Trondheim biennale for art & technology – Meta.Morf. TEKS initiates and organises artistic productions and projects, works with promotion and education through courses and workshops, and acts as organiser or co-organiser of various techno related cultural initiatives.

## Vandaler forening [vandalerforening.org](http://vandalerforening.org)

Vandalerforening.org is an artist-run space which organises, conducts and facilitates art events with a special focus on experimental, time-based, collaborative and collective practices in relation to landscape and public space. Vandaler forening organises, conducts and facilitates art events with a special focus on experimental, time-based, collaborative and collective practices in relation to landscape, public space and societal issues.

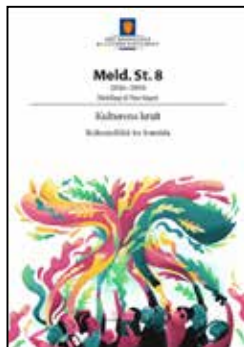
## PNEK – Production Network for Electronic Art, Norway [pnek.org](http://pnek.org)

PNEK is a network structure aiming to provide good production conditions for artists working with electronic and interdisciplinary art. PNEK assists artists and structures with competence building, project development, workshops, screening or distribution of works, and activities aiming to raise the general awareness about hybrid art forms through seminars and social or artistic events. PNEK can provide limited travel support for artistic or structural exchange between the nodes, and for developing international relations (artists, curators, critics, etc.).



TL:NO 105

Anne Wiland  
**Skjønnheten og utstyret**  
Kulturrådet, 1999  
Donated by: Kulturrådet, TEKS



TL:NO 107

**Meld. St. 8 (2018–2019)**  
**Kulturens kraft – Kulturpolitikk for framtida**  
Det kongelige kulturdepartement, 2019  
Donated by: Zane Cerpina



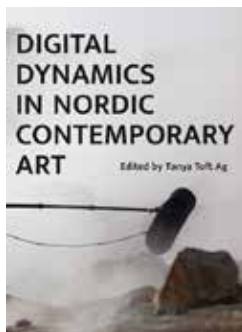
TL:NO 109

Brandon LaBelle (ed.)  
**Manual for the construction of a sound as a device to elaborate social connection**  
Errant Bodies Press, 2010  
Donated by: Atelier Nord



TL:NO 110

Jøran Rudi  
**Elektrisk lyd i Norge fra 1930 til 2005**  
Novus forlag, 2019  
Donated by: Jøran Rudi



TL:NO 111

Tanya Toft Ag (ed.)  
**Digital Dynamics in Nordic Contemporary Art**  
Intellect, 2019  
Donated by: Tanya Toft Ag



TL:NO 112

Jon-Ove Steihaug, Kim Hiorthøy (eds.)  
**Fellessentralen-Norsk kunstproduksjon i 90 årene**  
Kunstnernes hus, 1998  
Donated by: Zane Cerpina



TL:NO 113

Gunnar B. Kvaran, Eli Okkenaug (eds.)  
**TREFF**  
Bergen Kunstmuseum, 2001  
Donated by: Zane Cerpina



TL:NO 115

Gyrid Nordal Kaldestad, Zane Cerpina (eds.)  
**Pnek Files (No 5): Transitions**  
PNEK, 2018  
Donated by: PNEK



TL:NO 116

Gyrid Nordal Kaldestad, Zane Cerpina (eds.)  
**PNEK Catalogue 2019**  
PNEK, 2019  
Donated by: PNEK



TL:NO 117

Zane Cerpina (ed.)  
**FAEN - FEMALE ARTISTIC EXPERIMENTS NORWAY / Atelier Nord 2019**  
TEKS.press / PNEK, 2019  
Donated by: TEKS



TL:NO 119

Ida Lykken Ghosh, Nicholas Norton (eds.)  
**Atelier Nord Files No.1 - Pearla Pigao: Modes to Moods**  
Atelier Nord, 2019  
Donated by: Atelier Nord



TL:NO 121

Lars Ove Toft (ed.)  
**Årsrapport 2017 BEK - Bergen senter for elektronisk kunst**  
BEK, 2017  
Donated by: PNEK



TL:NO 122

Harald Fetveit  
**Dans dans dans for voksne: program okt-des 2008**  
Dans for voksne, 2008  
Donated by: PNEK



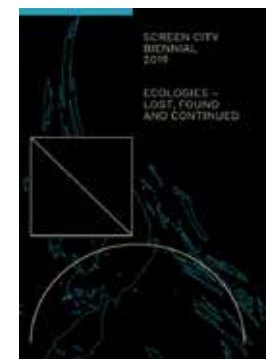
TL:NO 128

Gisle Frøysland  
**Piksel09 :: f[re](e){op} [en]jable**  
Piksel, 2009  
Donated by: Pikel



TL:NO 127

Christian Blom (ed.)  
**Notam Årsmelding 2018**  
Notam, 2018  
Donated by: Notam



TL:NO 130

Vanina Saracino, Daniela Arriado, Tanya Toft Ag (eds.)  
**Screen City Biennial 2019 - Ecologies lost, found and continued**  
Screen City Biennial, 2018  
ISBN: 9788269100020  
Donated by: Daniela Arriado



TL:NO 141

Per Hess (ed.)  
**Neon, Argon, Krypton**  
Per Hess, 2018  
Donated by: Per Hess



TL:NO 143

**Akershus Kunstssenter - Utstillingsprogram 2018**  
Akershus Kunstssenter, 2018  
Donated by: Zane Cerpina





## **META.MORF X**

CECILIE BJØRGÅS JORDHEIM  
**DADA MANIFESTO**

EXHIBITION MARCH 6-14

**OPENING PERFORMANCE / WORKSHOP**

**MARCH 6 @ 13:00-14:00**

*KUNSTMUSEET NORD-TRØNDELAG*

**OLAV DUUN HIGH SCHOOL WORKSHOP: MARCH 5 & 6**

**THE KIDS' ART WORKSHOP: MARCH 7 @ 11:00-13:00**

*KUNSTMUSEET NORD-TRØNDELAG*

Curator: Sara Cornelia Greiff



# KUNSTMUSEET NORD-TRØNDELAG

## DADA MANIFESTO

Cecilie Bjørgås Jordheim <sup>[NO]</sup>



Kunstmuseet Nord-Trøndelag is proud to be a part of Meta.Morf 2020 presenting the biennale in the northern part of Trøndelag. We have invited visual artist, conceptual poet and composer Cecilie Bjørgås Jordheim to join us in this year's biennale. Jordheim's exhibition is based on her current work *Dada Manifesto* from 2015. This time Jordheim has involved students from Olav Duun High School to participate in a workshop-based lab exhibition in the museum.

Title: *Dada Manifesto*

Medium: Text on paper, music boxes, performance

Format: Music box (10 x 6 cm), sound duration:

2-28min

Year of production: (2015) 2019

*Dada Manifesto* (2015) is a sound piece for music boxes of 8 dada manifesto from the period 1916 to 1921 by Hugo Ball, Tristan Tzara, Francis Picabia, Raoul Hausmann and others. The manifesto, the text, on one or several A4-pages, is cut into one long strip to fit a music box and then spliced with tape. The letters D and A in the text are then punctuated, so the absence of D and A (..DADA), is what you hear being played.

During Meta.Morf, the *Dada Manifesto* will be shown in an expanded form at Art Museum Nord-Trøndelag: In addition to the soundwork of the Dadaists manifesto from the early 1900s, they will, after a 100 years, be in the company of soundwork and a performance produced in collaboration with students from music, dance and drama at Olav Duun High School, Namsos.

Manifesting is about making something clear or obvious; forming a manifesto is about making visible and public what is important to oneself.

Dada was the first conceptual art movement where artists did not create aesthetically pleasing objects. The manifestos that originated in the Dada movement challenged bourgeois conventions and posed, and generated, challenging questions about society, the artist's role and the meaning of the art.

The first dada manifesto by Hugo Ball, from 1916, encourages poets to stop writing with words, but rather write the word itself. Ball states that "I shall be reading poems that are meant to dispense with conventional language, no less, and to have done with it". In this way, the collection of Dada manifestos in *Dada Manifesto* (2015) acts in accordance with Ball's manifesto, using the word construct as the direct source.

Dadaist and artist Hans Arp wanted to incorporate chance operations into the creation of art, in opposition to traditional art production where a work is carefully planned and completed. The introduction of coincidences was a way for Dadaists to challenge artistic norms and to question the artist's role in the artistic process.

Just like the Dada movement emerged as a reaction to World War I, we see an anti-authoritarian wave across the world today questioning current norms and conventions. In particular, we see this in the younger generation in issues related to sustainability and climate change.

Students are invited to participate to the conversation with issues, big or small, that concerns them, and to communicate their views. The students' statements then becomes a composition, manifested on the paper strips to be played by the music boxes. The composition will provide the basis for an interpretation from the dance students, while the performance structure is based on chance operations.

The manifests from the High School students will be displayed as part of the exhibition, together with the original *Dada Manifesto* (2015) and the art pieces from the Kids' Art Workshop that takes place Saturday, March 7.

The audience is also invited to participate actively and contribute to the exhibition by making their own compositions on paper strips to be included in the exhibition. This closeness to the audience and the participation of the spectator is pervasive in the art of Cecilie Bjørgås Jordheim, as well as highlighting relevant social issues.

*Dada Manifesto* has previously been shown and performed at Sound Of A Cage, Tou Scene (Stavanger, Norway), Malmö Konsthall (Malmö, Sweden) and represented by the Oslo-based publishing house Santolarosa during the Artissima 2019 art fair (Turin, Italy). Published on Twitter, in *para · text # 2* (London, UK) and in *COLDFRONT Magazine* (New York / www).

Link to the audio works:

[soundcloud.com/cbjordheim/sets/dada-manifesto](https://soundcloud.com/cbjordheim/sets/dada-manifesto)



Dada Confetti



## Cecilie Bjørgås Jordheim

4.014

*The gramophone record, the musical thought, the score, the waves of sound, all stand to one another in that pictorial internal relation, which holds between language and the world. To all of them the logical structure is common.* (Wittgenstein, 1999: 32)

Cecilie Bjørgås Jordheim (b. 1981 in Bergen, Norway) is a visual artist, conceptual poet and composer

currently working with the translation between visual and auditive systems, concrete poetry and the concept of isomorphia.

Through installations, visual scores and concrete poetry, Jordheim's work springs from an interdisciplinary agenda; between genres, fields of art and medium, and the thesis that all visual has sound. Jordheim thematizes the human need for systematization and questions if there a direct connection between language and the world; topography, typography, text, architecture and sound/music. The scores are often frame work

for a collaboration with musicians, where the outcome is in the translation between the visual and the musical improvisation.

Jordheim holds an MA in fine art from Oslo National Academy of Arts (2011). Previous shows, screenings and publications include Geopoetics in Practice for Routledge publishing, Artissima and Gallery Santolarosa (Turin, Italy), Hayward publishing and Whitechapel Gallery (London, UK), Kunstmuseet Nord-Trøndelag (Namsos, Norway), Signal (Malmö, Sweden), Matrix Magazine (Montreal, Canada), Alpineum Produzentengalerie (Luzern, Switzerland), Bury Art Museum (Bury, UK) and UBUweb. Jordheim lives and works in Oslo, Norway.





## **META.MORF X**

HC GILJE  
**MELLOMROM**

**EXHIBITION MARCH 6–28**

**EXHIBITION OPENING MARCH 6 @18:00**

**PERFORMANCE MARCH 6 @18:30**

**ARTIST TALK MARCH 28 @14:00**

*TRØNDELAG SENTER FOR SAMTIDSKUNST*

ANNIKA BORG  
**PUNKT.KONTINUUM**

**ONE AND ONE HUNDRED DICE ROLLS A DAY**

**EXHIBITION APRIL 4–MAY 3**

**EXHIBITION OPENING APRIL 4 @ 14:00–17:00**

*TRØNDELAG SENTER FOR SAMTIDSKUNST*

Curators: TSSK Artistic Board

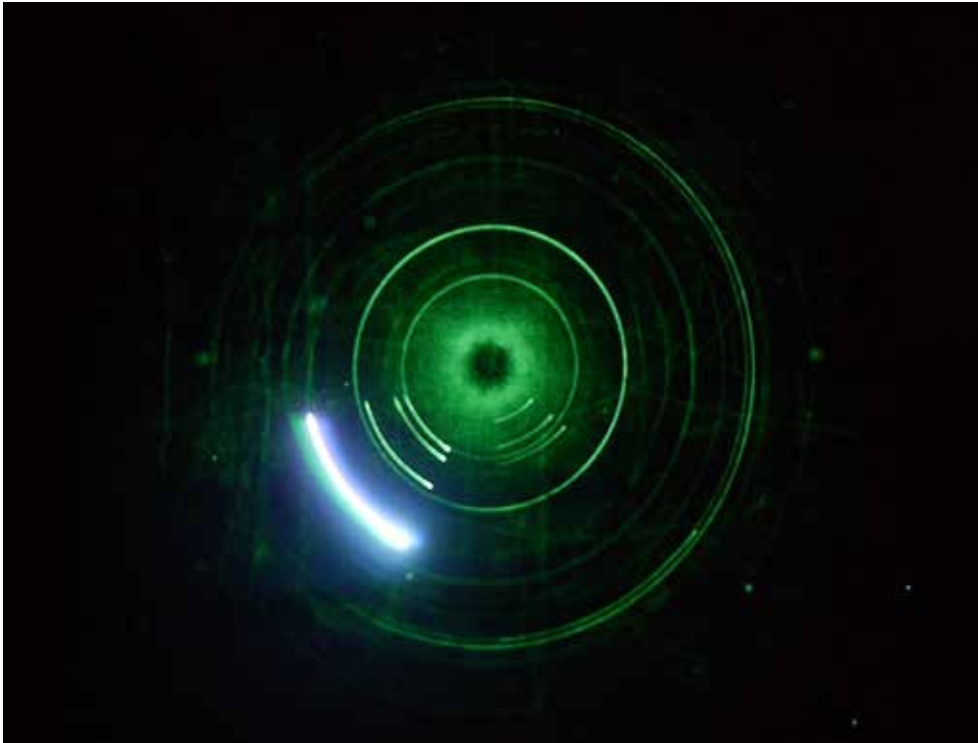
Lars Skjelbreia, Tovelise Røkke-Olsen & Randi Martine Brockmann

**TRØNDELAG  
SENTER  
FOR  
SAMTIDSKUNST**

# TRØNDELAG SENTER FOR SAMTIDSKUNST

## MELLOMROM

HC Gilje <sup>[NO]</sup>

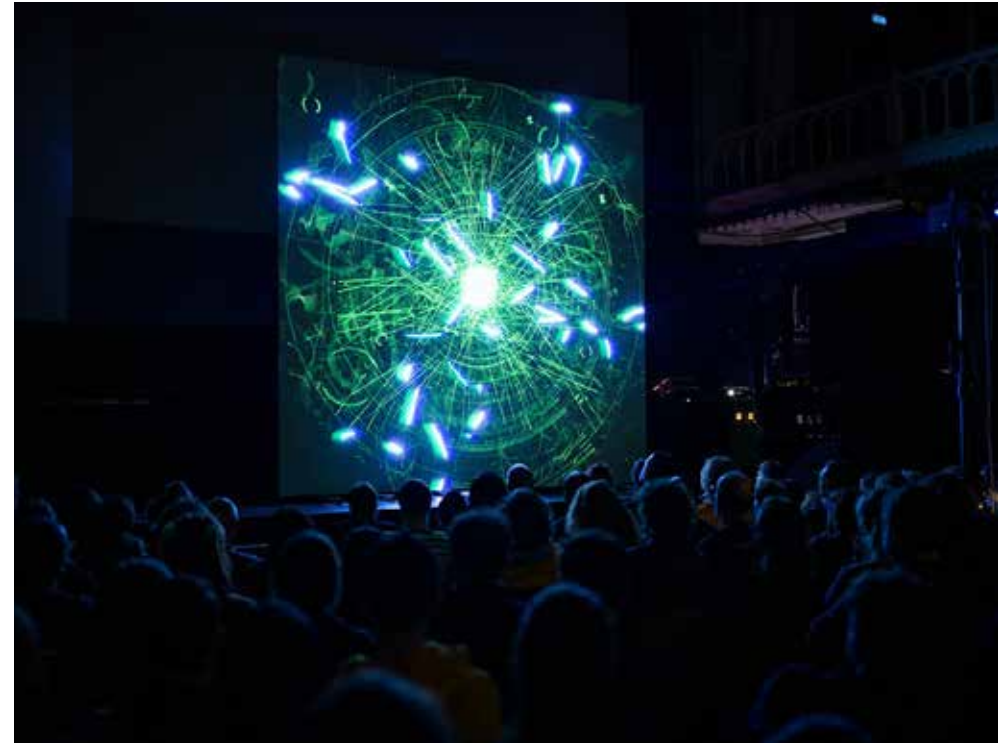


*Radiant Live at Sonic Arts (2019). Photo: Pieter Kers*

At Trøndelag Centre for Contemporary Art, HC Gilje presents two installations that in different ways explore the fleeting borders between us and the other(s) and our experience of light and space. One of the installations is specifically made with the location and exhibition space in mind; Gilje uses the Art Centre's large glass facade. Facing a busy street, the work consists of a series of surfaces that can be electrically switched on or off to make them either transparent or opaque. In effect it is possible to experience the installation both from the inside and the outside of the gallery space at any given moment. By changing the surfaces so that they alter between being transparent and opaque, movements emerges and keeps the space in a constant flux of opening and closing our visual access to the inside and outside. The surfaces transforms our experience of the space, they both reveal and hide and makes the installation

act as a temporary border or divider, like a membrane with varying porosity.

The second installation, *Radiant*, uses a large laser device to create temporary light paintings. The laser sends a white beam of light across the gallery space and imprint lines and curves on an opposite wall, only visible for a short moment before they disappear. The wall is covered with phosphorescent pigment which captures light when the laser rays hits its surface, emitting a green shimmer that slowly fades away. Giving the installation the fitting name *Radiant* points to the layered laser-painted lines evolving into a glowing green web of shimmering shapes that are constantly overwritten. The relation between the always moving beam of light and the ability of the surface to absorb and emit light creates a tension between the quick and the slow, the present moment in contrast to longer stretches



*Radiant Live at Sonic Arts (2019). Photo: Pieter Kers*

of time, and between what is built up and what is broken down.

Both the phosphorescent pigment used on the wall surface (made from rare earth minerals) and the laser projector are light sources that can be explained by quantum theory: electrons absorbing or releasing photons and thereby changing energy state. Einstein predicted the creation of laser (Light Amplification by Stimulated Emission of Radiation), a light source brighter than the sun, which eventually appeared in 1960 and is now ubiquitous. Unlike other light sources the laser has the unique quality of temporal and spatial coherence, resulting among other things in a monochrome narrow beam of light which stays narrow over distance.

There will be a live performance of *Radiant* on the 6<sup>th</sup> of March, during the opening of the exhibition. *Radiant Live* was first commissioned by Sonic Acts (2019, Amsterdam). Additional sound programming is made by David Kiers.

*HC Giljes exhibition is supported by The Relief Fund for Visual Artists Production grant (BKHS delegerte tildelinger) and Arts Council Norway.*



HC Gilje

[hcgilje.com](http://hcgilje.com)

As an artist HC Gilje's (b. 1969) main interest is to explore the visual and optical effects when movement of light interacts with physical structures. When light passes through architectural spaces, physical objects, bodies and landscapes, the move-

ments of the light affects the experience of time elapsing. Gilje has developed tools and mechanical devices that act as instruments, mediators, probes or interfaces to inflict these types of movements from the light and to create interactions with its surroundings.

For over a decade Gilje has explored how ephemeral media – sound, projections, light and movement – can change and activate a space. After finishing his art degree from the intermedia department at the Academy of Fine Arts in Trondheim in 1999, and receiving a residency at Künstlerhaus Bethanien, Gilje moved to Berlin. Being a key figure in the live cinema scene from around 2000 he toured extensively throughout the world, while at the same time creating experimental videos presented at various film, art and festival venues. Gilje was active with 242.pilots, a live video improvisation ensemble, and various other constellations like the dance company Kreutzerkompani (2000–2006) together with choreographer Eva Cecilie Richardsen. In 2006 he moved back to Norway and started working with real time environments, installations, live performance, set design and experimental video.

His recent solo exhibitions include Stereolux (2019), ANX (2018), Kunsthall Grenland (2018), Rake Art Space (2016), Kristiansand Kunsthall (2016) and Woodstreet Galleries in Pittsburgh (2012 and 2015). HC Gilje has participated extensively on international festivals, for instance Sonic Acts in Amsterdam (2010, 2013 and 2017) and LIAF (2013). He joined the project Dark Ecology (2015–17) creating a video installation, a light installation, a live performance and a vertical cinema film. He has also participated in several group exhibitions, at for instance Skulpturbiennalen (2015–16), Babel Art Space (2014), ZHM in Karlsruhe (2013) and Museum for Contemporary art in Roskilde (2008 and 2010). In 2017 Gilje published the book *Conversations with spaces* through the publisher uten tittel.

## TRØNDELAG SENTER FOR SAMTIDSKUNST

### PUNKT.KONTINUUM

Annika Borg [NO/SE]

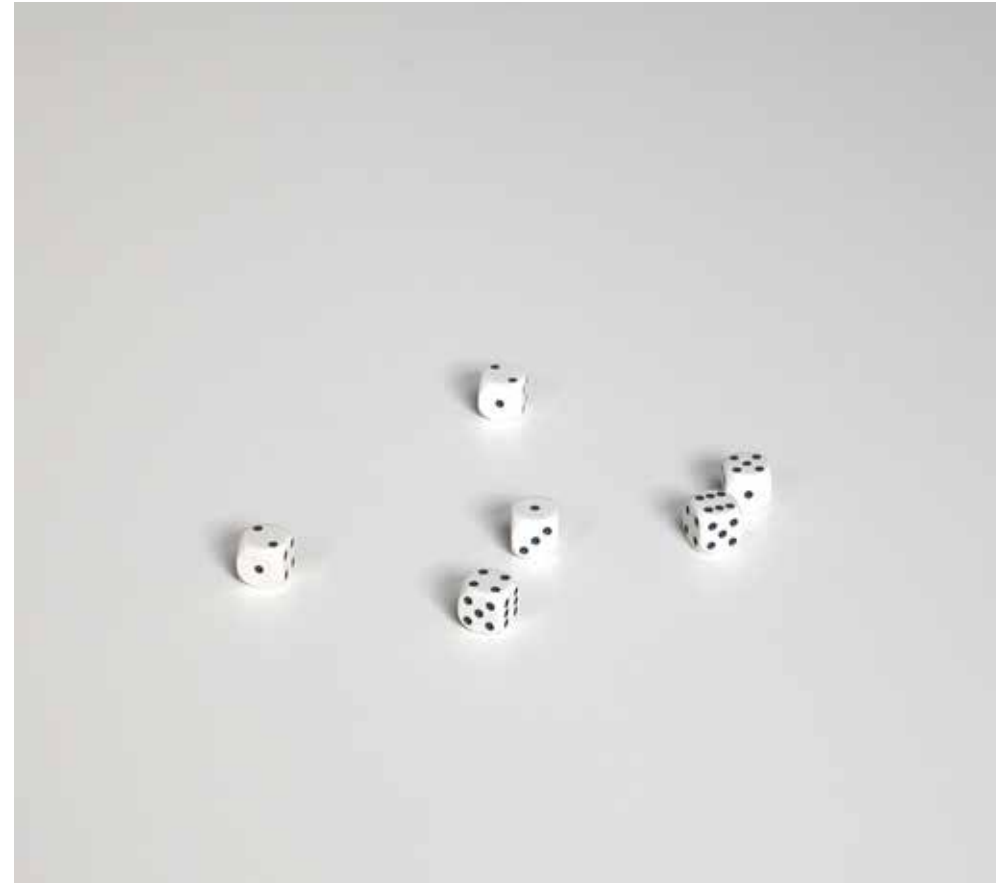


Photo: Annika Borg

In the exhibition *punkt.kontinuum* (*point.continuum*) at Trøndelag Centre for Contemporary Art the Norwegian conceptual artist Annika Borg presents her lifework "one and one hundred dice rolls a day" – a project that has spanned the course of 25 years. It began in September 1994, while Borg was a student at the art academy, and for the past two and a half decades she has rolled a set of six dice simultaneously, 101 times every day.

The dice is a small object that represents coincidence by generating random numbers. This element of chance is combined with a specific set

of rules. Borg has, like most conceptual artists in the 1960s, outlined a fixed instruction for how the project is to be carried out: "Every day a set of six dice are rolled. Once each morning, followed by one hundred times later the same day. For every dice roll the combination of numbers is written down. Every dice is marked and has its fixed place in the order." The numerical combinations that unfolds are gathered in a steadily growing archive: one post a day, one bound volume a month, one section of a shelf per year. The exhibition presents what with time has become a large installation of this material.





Photo: Annika Borg

Inspired by the eye of the dice, the dot became the first shape that the material was translated into. The dot usually marks a conclusion, often at the end of an sentence, but in this case it also marks a continuation: When a set of six dice are rolled one hundred and one times the possible outcome of combinations are almost endless – mathematically the project would generate 46.656 unique variations of the first dice roll as a singular throw. The number of unique variations of the next hundred throws as a group is in comparison higher than the number of grains of sand on earth and higher than the number of stars in the universe. Borg engages in dialogue with these random numbers, with different sets of forms and rules, and this simple yet complex visual language has shown to be capable of bringing life into the abstract numerical material. This way of constructing and transforming numbers aims to make us reflect upon coincidences and systems, time, extent and variation, which are active elements in all forms of nature.

In addition to the dot, Borg's visual language has so far taken the shape of straight lines, wavelines and semicircles; all represented in this exhibition. To accurately preserve the distinctiveness of the material she uses a digital working method in the processes of translating the numbers. Although the finished work does not always end up in a digital form, her sketches are always carried out digitally. Most of the time, there is no programming involved, but a manual placement of elements in a vector based program according to the numbers from the dice – a process Borg herself calls digital handicraft. This method gives her ample time to get to know her material in a very close and specific manner and create artworks that presents the uniqueness of the numeric material.

Through drawing, animation, sculpture and sound, Borg presents different approaches to explore the inherent nature of this unique and random material. With a scientific approach she has dived into the world of numbers and randomness. She has gathered data, made observations,

and undergone precise experiences. Through this process she has steadily developed a stronger feeling for and understanding of the uniqueness of her material and what is latent in it. At the same time her method also resembles an extended performance in which dedication, ritual, and duration come into play. The fascination for the project and numbers are connected to time and a commitment to art – because it provides meaning, if not in the form of language then in the shape of experience.

The chosen title for the exhibition indicates that reaching 25 years of the project is only a point in

a continuing journey heading for an infinite future. Given the project's duration and immersion, her approach can almost be seen as an alternative model for science and other processes in the unfolding of society: she shows us that long-term perspectives are in fact possible.

*Annika Borg / punkt.kontinuum is supported by Government Grants for Artists, The Cultural Fund, The Audio and Visual Fund, Trondheim Municipality, Regional Production Support and The Relief Fund for Visual Artists Production grant (BKHs delegerte tildeling).*



## Annika Borg

[aborg.no](http://aborg.no)

Annika Borg (b. 1964, Stockholm) is a visual artist based in Trondheim. She graduated from Trondheim Academy of Fine Art in 1996. Her key method of work is process based and places itself

within a conceptual framework with a methodology consisting of action, collection, transformation and visualization. Her artistic material is numbers collected from the action of rolling a set of six dices every day. This has gradually become a large body of numeric material, which in turn has resulted in several sub-projects where the numbers are transformed into various visual forms and expressions.

Throughout the last three decades she has participated in several group exhibitions and her work is included in public art collections. Trondheim Kunstmuseum presented her solo exhibition "Circle Incidents" in 2012. Borg has played an active role in the local arts community through numerous positions and was a founding member of the artist run space trans-art (2000–2003). She has received multiple public art commissions in educational buildings as well as an outdoor project in Ravelsveita in the centre of Trondheim. In 2016–2018 Borg was a resident at Tempe studios in Trondheim. In the fall of 2019 she presented the first edition of the *punkt.kontinuum (point.continuum)* at North Norwegian Art Centre at Svolvær as a celebration of the project's 25<sup>th</sup> anniversary.

**META.MORF X**

VERENA FRIEDRICH  
**THE LONG NOW**

EXHIBITION MARCH 8–MAY 3 @ 12:00–14:00

*VITENSENTERET*

Curator: Espen Gangvik



# TRONDHEIM SCIENCE CENTER

## THE LONG NOW

Verena Friedrich <sup>[DE]</sup>



A soap bubble usually remains stable for only a few moments – it is a perfectly formed sphere with an iridescent surface that reflects its surroundings. However, due to the force of gravity and the thinning of the membrane it bursts after a few seconds and is irretrievably lost. As one of the classical vanitas symbols the soap bubble traditionally stands for the transience of the moment and the fragility of life.

*THE LONG NOW* approaches the soap bubble from a contemporary perspective – with reference to its chemical and physical properties as well as recent scientific and technological developments.

*THE LONG NOW* is aimed at extending the lifespan of a soap bubble, to preserve it forever if possible. Using an improved formula, a machine generates a bubble, sends it to a chamber with

a controlled atmosphere and keeps it there in suspension for as long as possible. The project is presented in the form of an experimental set-up in which the newly created soap bubble oscillates permanently between fragility and stability.

### CREDITS:

*Realised within the framework of EMARE Move On at OBORO's New Media Lab and a residency at Rustines|Lab, Perte de Signal, both in Montréal, Canada. With support of the Culture Programme of the European Commission, the Goethe Institut, the Conseil des arts et des lettres du Québec and FACT.*

### Verena Friedrich

[heavythinking.org](http://heavythinking.org)

Verena Friedrich is an artist creating time-based installations in which organic, electronic and sculptural media come into play. She was an artist in residence i. a. at "SymbioticA – Centre of Excellence in Biological Arts" at the University of Western Australia and at the Max Planck Institute for Biology of Ageing Cologne in Germany.

Verena Friedrich's projects have been presented internationally in the context of exhibitions, media art festivals and conferences. She received the International Media Award for Science and Art from ZKM Karlsruhe 2005; a special mention in the VIDA 13.2 Art & Artificial Life Awards; an

honorary mention in the Prix Ars Electronica 2015; a jury mention in the Japan Media Arts Festival 2015 and the Transitio\_MX award in 2017.

In recent years she has been teaching at the University of Art and Design Offenbach and the Bauhaus University Weimar, both in Germany. Currently she's an assistant professor and co-heading the "exMedia Lab" at the Academy of Media Arts Cologne, Germany.



## META.MORF X

UNNUR ANDREA EINARSDÓTTIR /  
ANNIKE FLO / ANNE CECILIE LIE /  
RENATE SYNNESS HANDAL

**FAEN: FY FAEN SÅ BRA!**

EXHIBITION MARCH 8-22

EXHIBITION OPENING MARCH 8 @ 14:00

*GALLERI KiT*

Curator: Zane Cerpina



## FAEN: FY FAEN SÅ BRA!

Curators note: Zane Cerpina

**Darknet spa for meditation? Scenography made in collaboration with fungi? A love story between a woman and her plant? A deep-sea dive into our biological origin and possible future? FY FAEN SÅ BRA!**

**FAEN (Female Artistic Experiments Norway) Exhibition: FY FAEN SÅ BRA! is the second group exhibition by four young female artists based in Norway: Annike Flo (NO), Anne Cecilie Lie (NO), Renate Synnes Handal (NO), Unnur Andrea Einarsdóttir (IS/NO) and curated by Zane Cerpina.**

### FAEN ACADEMY

FAEN Exhibition is made by the FAEN Academy – a pilot project supporting the development of new artworks by young female artists working with experimental art in Norway. The FAEN Academy focuses on art productions from concept to exhibition-ready work in close collaboration with FAEN partners.

The FAEN Academy is needed to give production and exhibition opportunities for young female artists working with cutting edge art and experimental artistic approaches. The FAEN Academy offers an interdisciplinary, supportive, and reflective environment for producing experimental art. It is for artists that address and challenge contemporary issues in society, politics, culture, and ecology: art that makes the audience question and reflect on the world through new, unique experiences and perspectives.

### FAEN EXHIBITION 2020

During Meta.Morf 2020, FAEN is showing a selection of works that have been further developed especially for the exhibition at Gallery KiT in collaboration with FAEN. The selected works explore the contemporary challenges of co-existence with each other, non-human species and ecological phenomenons, as well ourselves and our role in this age of crisis called the Anthropocene.

### EXHIBITED WORKS

Annikе Flo's "c o c r e a t e : e : s h i f t" is a performative aesthetic experiment created in collaboration between the artist and non-human guests that already live at the Gallery KiT. Her work invites visitors to see themselves as a meta-organisms.

Renate Synnes Handal's installation *Polyphilia* challenges us to fall in love with plants. *Polyphilia* derives from her project *Another Partner* that follows a romantic relationship between a lady and her plant.

Unnur Andrea Einarsdóttir invites the audience into *The Darknet Spa* to investigate the dark side of our digital hive-mind and experience the collective psyche we have formed through the digital technologies.

Anne Cecilie Lie's bio-digital art installation *Intersected Waterbodies* is the result of an artistic research project that dives into the deep-sea mining industry investigating our biological origin and imagining our possible future.

### ORGANIZERS

FAEN Exhibition is organized and curated by Zane Cerpina / TEKS – Trondheim Electronic Arts Centre. The FAEN experts include Kirsty Kross, Kristin Bergaust, Hege Tapio, Gyrid Nordal Kaldestad, Ståle Stenslie and others.

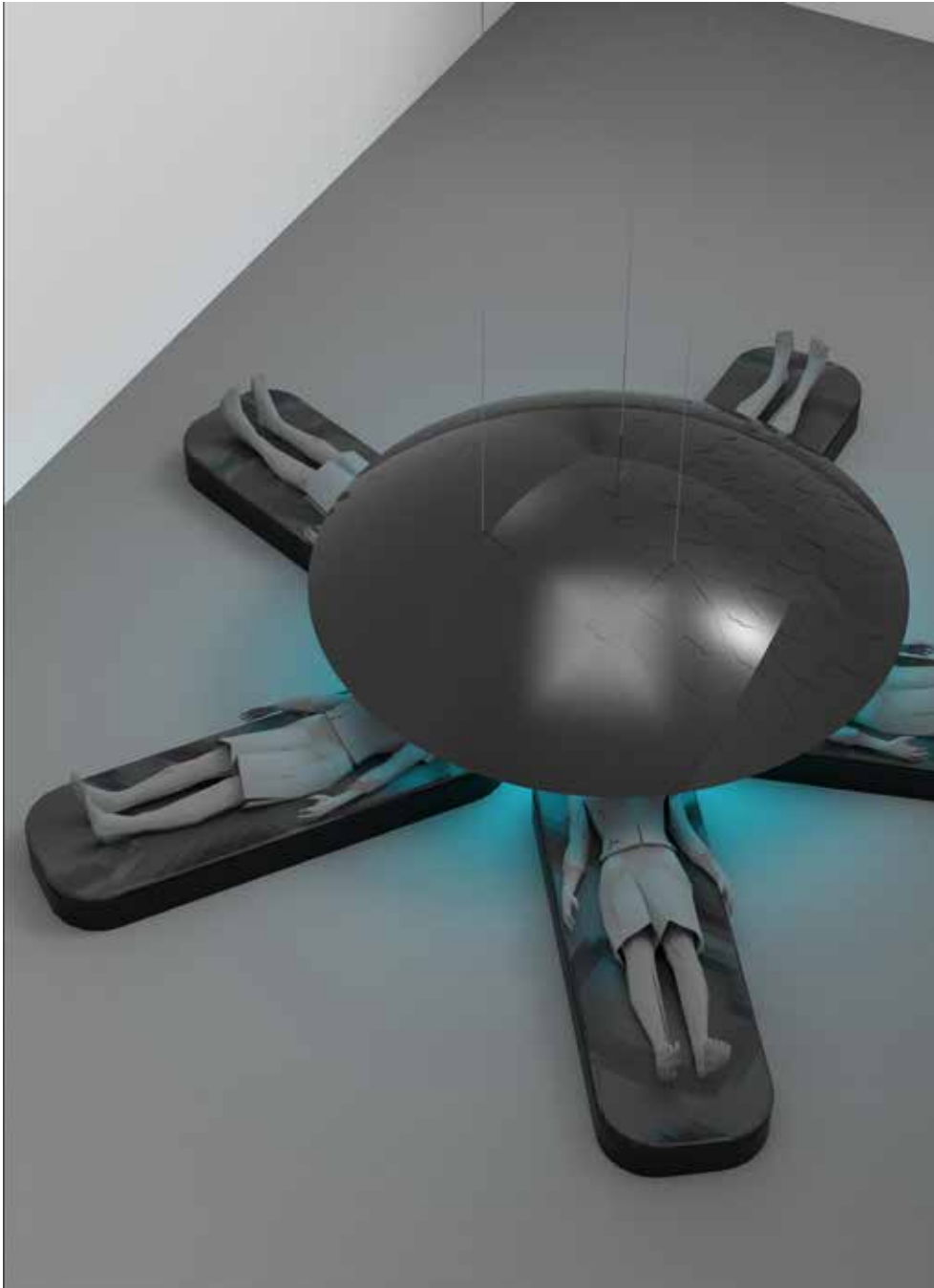
The FAEN exhibition at Meta.Morf is sponsored by Arts Council Norway and TEKS.



## FAEN: EXHIBITION

### THE DARKNET SPA

Unnur Andrea Einarsdóttir [IS/NO]



*The Darknet Spa* is an immersive sound installation that focuses on the topic of anonymous internet browsing through what is called the Darknet or Dark Web. The Dark Web is that part of the internet that operates outside the fringes of digital society, a lawless, virtual land where you are free to roam without government regulation or corporate intervention. The terms "surface web", "deep web" and "dark web" are often used to illustrate the "geographics" of the internet and to explain the different levels of accessibility and encryption.

Freud's model of the human mind categorises three levels of consciousness: the conscious, subconscious and unconscious. *The Darknet Spa* offers the audience to delve into the unconscious of our digital hive mind, offering a glimpse into the darker sides of our collective psyche. The artwork investigates the responsibility we place

on our technologies and how they ultimately function as a mirror that reflects back to us the broken parts of our society. Simultaneously the work underlines the gap between our physical and digital experiences, incorporating the viewer's body into the Darknet as a materialized physical space.



Photo: Manuel Lagos Cid

#### Unnur Andrea Einarsdóttir

[unnurandrea.net](http://unnurandrea.net)

Unnur Andrea Einarsdóttir is an Icelandic visual artist and musician. Her work explores our relationship with technology and the utopian and dystopian manifestations of our digital present. It investigates the divide between our virtual lives and physical bodies, and how

global networks influence our identities, societies and collective perception of reality. Unnur Andrea works mainly with video, performance, and installation, often seeking to create an immersive

and encompassing experience for the viewer. As a singer and music producer, the sonic elements remain an important and central factor in most of her work.



## FAEN: EXHIBITION

### c o c r e a t : e : u r e s : s h i f t

Annikе Flo <sup>[NO]</sup>



c o c r e a t : e : u r e s : s h i f t is Annike Flo in partnership with the myriad of beings living in the KiT gallery space, its human visitors and yet to be discovered guests. The project is a performative experiment attempting to shift our perceptions of other beings from other to kin, and our perspective of self from singular to plural.

s h i f t is inspired by the Human Microbiome Project which, among other discoveries, has revealed that microorganisms living within us play key parts in, and influence our immune system, our brain, and our genome, which all used to be biological explanations of the individual self. There is no clear line between us and other, you and your surroundings. How and where do we start to feel like a metaorganism?

s h i f t plays with the idea of the historical Salon as a place of meeting and discussion, but also as a non-sterile and fluid aesthetic that can facilitate human-microbe encounters. Away from a scientific or medical lens, s h i f t gives space to, nurtures and allows microorganisms to flourish where they already live, in this case, KiT's gallery space, and on offerings donated by visitors.

[cocreateurs.space](https://cocreateurs.space)

#### Annikе Flo

[annikeflo.com](https://annikeflo.com)



Photo: Claudia Lucacel

Through her practice, Annike Flo investigates how to create in the age of the Anthropocene, working with themes of agency, and our relationship to ourselves and other organisms from a scenographic perspective. By including others who do their own worlding in staged spatial events, together

with a human audience and herself, her work plays with the fusing of reality and performance. Annike holds an MA in scenography from the Norwegian Theatre Academy (2018) and a BA in

costume for performance from London College of Fashion, University of the Arts (2010). After graduating from LCF she specialized in design for immersive and participatory theatre (secret cinema, punch drunk, immersive cult), which she brings into her current artistic practice. Flo currently works as artistic project leader for Norwegian BioArt Arena, NOBA, in Ås.

## FAEN: EXHIBITION

### POLYPHILIA

Renate Synnes Handal <sup>[NO]</sup>



Polyphilia – the practice of/desire for intimate relationships with more than one partner.

“She told me relationships are always about giving and giving. Not giving and taking, like we’re conditioned to believe. As a verb, to give means – to freely transfer the possession of (something) to (someone). But as a noun, the word has a more intimidating tone – the capacity to bend or alter in shape under pressure.

So how (and what) can I give? Do I have to change form to make it clear that I love?

Plant-persons are absolute masters when it comes to the act of giving. They grow and alter their shapes until the day they die. They give themselves to everyone – behaving as food for almost every living being on the planet. Even their waste product is sorely needed, as their trash maintains the atmospheric oxygen levels on our planet.

In my quest to find love, I’ve come to look at them for inspiration and guidance. Could it, perhaps,

be true that it’s easier to give yourself to multiple partners rather than only one? Could it be that plant-persons have some answers for us?”

*Polyphilia* is a piece especially made for gallery KiT and Meta.Morf Biennale, and is part of Renate Synnes Handal’s ongoing project *En annen partner*. In it the artist explores topics like love, relationships, and loneliness – navigating through the art- and everyday life together with her special partner Gullis (*Epipremnum Aureum*).

Over the past two years, they’ve lived and worked together, all the time with a focus on developing their romantic bond. By now, they have shown three fragments from their shared reality, *Suddenly, you complete me* at Bergen Kunsthall, 36 at Visningsrommet USF and *En annen partner* at Atelier Nord ANX. They have also travelled to Renate’s hometown Ålesund, where they did a residency in the middle of the forest in Telemark, as well as they have taken a charter-trip to beautiful Agia Marina, Crete.



**Renate Synnes Handal**

Renate Synnes Handal is based in Bergen, where she got her master’s degree in Fine Art from the University of Bergen in 2018. Her practice can best be described as a platform for storytelling, where big ontological questions function as a blurry backdrop.

What are we? How do we live now? How do we choose to relate to ourselves, each other and our surroundings? It is a practice that examines the

political responsibility we possess as people-persons, since we freely get to decide who and what we include as important in our society.



## FAEN: EXHIBITION

### INTERSECTED WATERBODIES

Anne Cecilie Lie <sup>[NO]</sup>



*Intersected Waterbodies* is an interdisciplinary, bio-digital artwork investigating a toxicological web of (tech) bodies, liminal spaces and the sea.

Today's digital ecology is inextricably linked to extraction: of the Earth and through the exploitation of marginalized bodies, as well as emotional mining through social media, among others.

*Intersected Waterbodies* is rooted in the city of Trondheim, which has a long history of digging deep into the body of the landscape, now exploring extraction below the seabed through NTNU to, allegedly, create an ethical and sustainable technological future.

Facing the current environmental reckoning is urgent, but will a truly just future rise from excavating the place from which, most likely, all life on Earth originated?

Moving from the exploitative Anthropocene/Capitalocene/Plantationocene into Donna Haraway's restorative Chthulucene, marginalized worlds entangled with ours and that enable us to exist, come to the foreground. What life forms might be here in the future to come? And how can we leave as graciously as possible with those that are left behind in mind?



Anne Cecilie Lie

[annececilielie.com](http://annececilielie.com)

Through her work, Anne Cecilie Lie (b. 1983) examines how to create in the Anthropocene, with its accompanying philosophical and ethical questions, as well as for possible futures. She points

out blind spots in social and built structures and proposes new alternatives for co-existence to the human-centric/exceptional.

Site-specificity and cross-pollination are intrinsic to her work, inspired by Donna Haraway's theories of tentacular thinking, based on feministic, post-colonial, scientific and science fabulating approaches to collaborative futures with humans and non-humans alike.

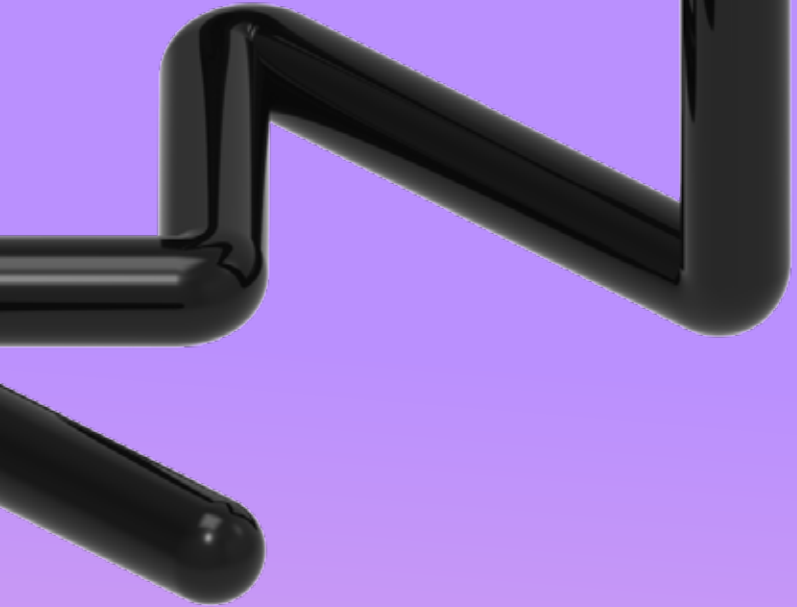
Object-Oriented Ontology and Timothy Morton's concept of Dark Ecology are also significant influences, where ecology includes all life and "non-life" such as technologies.

Through multisensory experiences, Lie seek to skew the human-centric view by highlighting marginalized other worlds that are interwoven with ours and enable us to exist.

Lie works with sound, performance, installations, and text, alone and in collaboration with others in the creative field, as well as partners within fields of scientific research and life sciences, knowledge producers such as educational institutions, libraries, and local communities.

Anne Cecilie holds an MA in scenography from the Norwegian Theatre Academy and a BA in Fine Arts from the Trondheim Academy of Fine Arts.





## META.MORF X

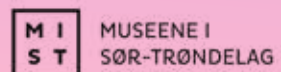
INES ALPHA  
**VIRTUAL JEWELLERY AND 3D MAKEUP**

EXHIBITION MARCH 14–MAY 3

**EXHIBITION OPENING MARCH 14 @ 14:00**

*NORDENFJELDSKE KUNSTINDUSTRIMUSEUM*

Curator: Steffen Wesselvold Holden



# NATIONAL MUSEUM OF DECORATIVE ARTS

## VIRTUAL JEWELLERY AND 3D MAKEUP

Ines Alpha <sup>[FR]</sup>



Ines Alpha

[inesmarzat.com](https://www.inesmarzat.com)

Ines Alpha (b. 1985) is a 3D artist based in Paris. She started experiencing with 3D while working as an art director in advertising, specialised in

beauty and luxury. Her first encounters with 3D was when she started making mockups for HD still lives and cosmetics. Through this process she also discovered the boundaries of CGI and the limitless possibilities in the technology. She enrolled into several learning programs and learned 3D through video tutorials on how to make organic iridescent blobs and weird creatures. The result of this autodidactic apprenticeship was the unification of 3D and makeup.

Her first notable 3D work was the "Baby F-16" video clip, an AR experiment she made with the artist Panteros666. Their next collaboration was the music video "Clear," featuring Woodkid. In their last project, "Meteciociel," which is an experimental travel vlog, they have envisioned unexpected encounters with a digital pet. Amongst her recent collaborators we can find Lil Miquela (virtual influencer), Munroe Bergdorf (model, activist), Asung Ko (actress), Melovemealot or MLAM (artist, MUA), Sheidlina (artist, model), Yelle (music), Salvia (make-up artist/ performer), Charlotte Free (Chanel model), Roy Woods (music) and Tiggy Thorn (MUA, artist, club kid).

"In today's, and more importantly tomorrow's society, people will express an ever-expanding desire to transform themselves. The illusions are everywhere. Using automated social media filters, advanced makeup technics or plastic surgery. I consider my work to be an exaggeration of that worldwide trend and I'm trying to imagine what an absolute aesthetic freedom of one's appearance would look like. This is why my goal is to encourage a fun and creative approach to makeup and self-expression. We need to de-dramatize beauty.

I love collaborating with people who inspire me. To me, there is nothing better in this world than finding the right artistic connections. Uniting different skills, styles and backgrounds. Their visual universe and their faces and features inspire me. The way they dress and present themselves to the world, sometimes it's their beauty, sometimes

it's something I really can't explain. My dream is to develop an app where everyone can wear my 3D makeups in the most realistic way. I truly looking forward to the day where we will all be wearing contact lenses to see an augmented world with our own eyes."

At present the "3D makeup series" constitute Ines Alpha's main body of work, where she pushes the boundaries of makeup, working on "digitalised" bodies, allowing for more freedom with the concepts of beauty.



**META.MORF X**

EIRIK HAVNES  
**THE AGREEMENT**

EXHIBITION MARCH 20–MAY 3

EXHIBITION OPENING MARCH 20 @ 18:00–20:00

*TEKS.STUDIO*

Curator: Espen Gangvik

**TEKS**



# TEKS.STUDIO

## THE AGREEMENT

Eirik Havnes <sup>[NO]</sup>



*The Agreement* is an installation based on feedback through eight circular saw blades using contact microphones and tactile transducers.

Each saw blade generates a feedback loop which produces a set of frequencies that resonates in the blade itself. When the different saw blades are fed into each other, creating new and bigger feedback loops, new tones appear, and the only frequencies that will be heard are those that the included blades have in common.

In this way, the installation will always create new tones and frequencies, all depending on which saw blades that are connected to each other.

Exhibited at Trøndelag Senter for Samtidskunst (2014) and Bomuldsfabriken Kunsthall (2015).



### Eirik Havnes

Eirik Havnes (b.1989)  
Guitarist, sound artist, composer and creator of some other stuff from Ålesund, residents in Bergen. Focuses on producing sound on the fringe of genres and technical barriers.

Education:  
BA Music Technology, NTNU, Trondheim (2012)  
MA Music Technology, NTNU, Trondheim (2015)

Concert producer:  
Playdate, concert series, Bergen (2017-2018)  
Pøkk, concert series, Trondheim (2012-2015)  
Kongsberg Jazz festival 50 hour jam (2014)  
Bråkesund, festival, Ålesund (2010-2018)  
Midsommerjazz, Ålesund (2009-2012)  
Jugendfest, festival Ålesund (2009-2012)  
Sommerfesten, festival, Giske (2008-2012)

Curator:  
Vertigo, part of Meta.Morf Biennale, Trondheim (2016)

Academic:  
University lecturer in Listening based Digital Signal Processing, Master in Music Technology, NTNU (2016)



## META.MORF X

MARTINUS SUIJKERBUIJK

**PATER\_NOSTER\_2020**

EXHIBITION APRIL 3-26

**EXHIBITION OPENING APRIL 3 @ 19:00**

*BABEL VISNINGSROM FOR KUNST*

Curator: Lena Katrine Sokki

**BABEL**  
VISNINGSROM FOR KUNST

## BABEL ART SPACE

### PATER\_NOSTER\_2020

Martinus Suijkerbuijk <sup>[NL]</sup>



GAME WORLD

The project *Pater\_Noster\_2020* displays a network of algorithms and media that gives a comprehensive look of what goes on behind the extractive processes and production of 'Big Data'. The main elements of the spatial multi-media installation *Pater\_Noster\_2020* are two generative real-time animations. The first is a morphing portrait comprised of the visitors of the exhibition. The second is an agent based simulation (ABS) consisting of interacting artificial intelligence agents (blobs), that are generated through extracted emotional profiles from the visitors. In advance of the exhibition a dataset is collected and labelled by scraping algorithms and collecting "in the wild". Also during the exhibition the emotional state of the visitor will be collected.

Upon entering the exhibition the portrait of the visitor will be captured through facial recognition. From the collected portraits an emotional profile is generated through a facial expression

recognition algorithm, but with full integrity to the anonymity of the subjects encountered. Only their emotional profile is captured and not their identity.

The extracted emotional profiles are processed through two channels in the installation. In the first channel every profile is converted to a behaviour tree for one of the blob and imported in a bespoke virtual world. Each blob has a distinct behavioural profile and appearance. These characteristics are determined by each individual profile captured from the visitor. How the blobs respond to each other depends on the emotional states collected from the visitor of the exhibition.

In the second channel all the collected portraits transpose, and accumulate into a real-time animation of a portrait called the Demiurge. The Demiurge is a concept in Platonic philosophy as the creator of the physical world. The figure in

the animation is generated through a generative adversarial network (GAN). The latter is a form of deep learning that makes it possible to 'shape-shift' between different faces.

This animation is played in a continuous loop that morphs between all captured portraits in a new fluid identity and is complimented with a generative soundscape.

The project has become involved with what Shoshanna Zuboff has called "surveillance capitalism": a new stage of capitalism where the accumulation of wealth has been directed to human behaviour and experience as a raw material to generate profits. The algorithmic processes operating in the installation expose the effective idea of consumer profiling: the reduction of real world complexity i.e. human behaviour to tractable (consumer) data patterns. It shows that when life itself is reduced to a parametric space, it becomes susceptible to control and manipulation.

Furthermore, the feedback loop between individual (the Demiurge) and community (Blobs) gives us a warning of what "social" media cultivates: an attention economy where a fool's opinion can take on mythological proportions.



## ESSAY:

# ALGORITHMIC BEHAVIOUR UNDER THE SPELL OF SURVEILLANCE CAPITALISM

Martinus Suijkerbuijk <sup>[NL]</sup>

*"Don't believe everything you read on the internet!" – Socrates<sup>1</sup>*

*This text accompanies as a raw theoretical repository between the exhibition on display at Babel visningsrom for kunst (Babel Art Space) during Meta.Morf 2020 in Trondheim. Reciprocally, the exhibition is a toy model of the ideas and methods presented in this theoretical blueprint.*

### BEHAVIOURAL SURPLUS and MACHINE INTELLIGENCE

*The control of the production of wealth is the control of human life itself.<sup>2</sup>*  
– Hilaire Beloc

What do we address when we say AI? Are we talking about algorithms, computational hardware, tech-corporations, omni-sentient beings, or just machine learning? AI is surrounded by a lot of categorical confusions and delusions, and the discussions in popular media are no different. Most articles emerging from the mainstream media on AI are often hyperbolic or sensationalist with on both sides its sectarian celebrities. But what else can we expect from this prototypical *pharmakon*<sup>3</sup>, possessing both disease and cure that expose visions of a future where it has become "the worst or best thing that ever happened to humanity?"<sup>4</sup> And on the other hand the hype and relentless opportunism has also proven a Trojan horse.

During the distractive hype on AI, the industries, predominantly the "five biggies" – Amazon, Alphabet's Google, Apple, Facebook and Microsoft – have populated the public domain with 'black boxes' and 'crystal balls'.

AI under the umbrella of "big data" has evoked a massive industrial and academic concentration on building products and services to collect personal- and compute collective profiles, but most and foremost we've seen a paradigmatic shift in

economic and political operations that has presented itself as the new age: *surveillance capitalism*.<sup>5</sup>

The vast and extraordinary analysis of the present state of Capitalism presented in her seminal book *The Age of Surveillance Capitalism*, Shoshanna Zuboff lays a blueprint which strategies and foundations tech-corporations abide to, and what makes their so successful: *behavioural surplus*.

Behavioural surplus is essentially the 'game-changing asset' that enables tech-corporations to generate profit from raw data that is extracted by every computer-mediated interaction. Extraction Zuboff explains "describes the social relations and material infrastructure with which the firm (Google) asserts authority over those raw materials to achieve economies of scale in its raw-material supply operations".

Both in "classica" and surveillance capitalism, the production of surplus value and behavioural surplus obscures relationships in the process of production. The commodity form, as Marx taught us, is the material manifestation of labour power, but also a shell that obscures the relationship

between workers when it is reborn as money in exchange on the market. The main difference with behavioural surplus though is that the latter is generated with almost a "zero investment cost", to the contrary of Marx's surplus value that can only be generated through the exploitable parameter of labour power.

Users, or more accurately agents as we will discover later, are neither workers nor consumers: "there's no economic exchange, no price and no profit."<sup>6</sup> Users are not paid for their labour, nor operate the means of production. This phantom type of labour continues to be unacknowledged, has become almost a standard in machine intelligence projects, and should be added to what's already been formulated as 'ghost work'.<sup>7</sup> The imaginative projection in the media that AI is a panacea that runs on magic pixie dust is build upon a false premise, because if we ignore the command "pay no attention to the man behind the curtain" we see an army of workers optimizing, correcting, parsing and labelling data for machine processing.<sup>8</sup> This is not only outsourcing precarious labour but also obscuring that academics spend 25% of their job to this deadening labour.<sup>9</sup> It is often heralded that a company like Facebook only as 80.000 employees for it's massive billion-dollar enterprise, but they tend to forget the other 1 billion unpaid labourers. If we would consider these as substantial it would turn Marx's labour theory of Value immediately into a crisis, but instead it has become a landmark of post-Fordist society and the propellant of the prosperous expansion of the information economy.

As in classical capitalism and introduced with Fordism, the existential dichotomy of producer and consumer is necessary for the expansion of a market and the expansion of Capitalism, but now has dissolved and has become the raw resource for profit. Your operations within the information economy are not of distinct

essence, being productive or consumptive, but instead become homogenous tractable patterns that can be capitalized as corporate significations. The nature of any existential exclamation, and with that also the associated subjectivity, must be reducible to an economic model. The ultimate pinnacle is that the infinite variables of life itself can be defined within a calculable set of corporate parameters, and has become the prime resource for economical limitless growth.

The fabrication of this homogenous entity is exemplary of the corporate Liberal ideology. It wants to efface the "old" distinctions and limitations of the previous institutions, the "all that is solid ..." kind of thing, by exclaiming that you can be whoever you want to be, it doesn't matter if you are queer, coloured, or even fascist, as long as you can be rendered compatible with the extractive processes of surveillance capitalism. Essentially this is the obscured message under the hood of Corporate Liberalism's faux pas existential exclamation: it drives a derogatory devaluation of identity and subjectivity as if existential signification is not absolutely necessary. It desires that every variations or proportion of subjectivity and identity is rendered compatible with corporate directives. The idea of difference is only there to affect the superficial level of keeping up the appearance of diversity, but in reality reductionisms form the key incentives of corporate liberal strategies.

Most logically every binary opposition between subject/object, sentient/intelligible, producer/consumer and human/machine is conflated, and the sets of its elements: affects, organs, flux and functions should operate on the same level: i.e. in the latter case, the functions, organs and strengths of a human are connected with certain functions, organs of the technical machine and together they constitute a new arrangement, or a new "machinic assemblage."<sup>10</sup> A machinic assemblage, drawing from Deleuze and Guattari,

<sup>1</sup> Unidentifiable source, but circulated on the internet as successful meme

<sup>2</sup> HAYEK, F. A. 2001, *The Road to Serfdom*, Routledge & Sons, New York

<sup>3</sup> STIEGLER, B. *Automatic Society: The Future of Work*, Polity Press, Cambridge(UK)

<sup>4</sup> <https://www.theguardian.com/science/2016/oct/19/stephen-hawking-ai-best-or-worst-thing-for-humanity-cambridge>

<sup>5</sup> ZUBOFF, S. 2019, *In the Age of Surveillance Capitalism*, Profile Books, London

<sup>6</sup> Ibid.

<sup>7</sup> GRAY, L.M. SIDDARTH, S. 2019, *Ghost Work*, Houghton Mifflin Harcourt, Boston

<sup>8</sup> The marked sentence in the scene where the Wizard of Oz is revealed in the 1939 Victor Fleming film

<sup>9</sup> Anonymous, 2017, *The Smart, The Stupid and the catastrophically Scary*, Logic Issue I

<sup>10</sup> DELEUZE, G. & MASSUMI, B. 2014, *A Thousand Plateaus*, Continuum Bloomsbury, New York

is an assemblage “of bodies, of actions and passions, an intermingling of bodies reacting to one another” and is comprised of two segments, one of content, and the other of expression<sup>11</sup>. But under corporate design the assemblage of human and machine, that is the user, is put in negative relation based on the logics of competition, and entangles human and machine in a constrained loop of deterritorialisation of which the territory is already pre-inscribed. Within a “healthy” degree of deterritorialisation, content and expression are conjugated. They feed into each other, accelerate one another and are non-deterministic in probing the next entanglement for further assembly. In the case of surveillance capitalism, the assemblage is captured through shackling the user via machine entrapment – providing a service or product – in constrained form that has a freedom of choice but is not allowed to constitute its own subjectivity.

Like the labourer who’s “free” – free in a choice for survival, not as a subjective choice – to sell its labour power to the capitalist, users are “free” to use the services provided as “no one is obliged to sign up for facebook”<sup>12</sup> or Google, but as soon as you participate you enter the exploitative factory of data extraction. Of course the counter argument states, how can users be exploited when tech companies “offer a service that enables everyone to exercise foundational human rights – to have a voice (freedom of expression) and be able to connect (freedom of association and assembly)?”<sup>13</sup>

This rhetoric is what lures users into an existential quagmire where they can only participate in “Faustian bargain”: to sell our right to privacy for the freedom of expression.<sup>14</sup> A social contract

that will deteriorate even more asymmetrical, as google and facebook’s relentless lobbying attempt to dissolve any restriction imposed on their corporate strategic expansion model.<sup>15,16</sup>

But how is it then that the exploitable repository of personal data leads to profit? For that we have to look at how behavioural surplus is produced. The way conglomerates like Google and Facebook generate revenue is to provide companies access to best-fit consumer profiles for targeted advertising. Google builds, through your computer mediated interactions user profile information (UPI) that is fabricated through state-of-the-art machine intelligence.

Your UPI is a data ecological artefact of myriad parameters that represents a model of behaviour and desire, but digitally consists as a data point cloud that can be modelled to a function. That function is how likely you are to buy a certain product or to click on an advertisement.

You can imagine that how higher the predictive product of users clicking on advertisements, the higher price companies are willing to pay for these advertisements. Hence, it leads to the obsessive accumulation of data by providing more and more services – machine entrapment – that facilitate the fabrication of more ‘accurate’ behavioural models.<sup>17</sup>

In this ‘data maximalism’ the conceptual distinction between productive and consumptive patterns dissolve as both are reduced to the same abstract mathematical description, that is your behavioural profile. Producer and consumer are conflated due to a technological deterioration (data-dimensional reduction)<sup>18</sup>, from an

existential dichotomy into an abstract uniform corporate model. This corporate synthesis moves from qualitative difference to a quantitative unit, and becomes tractable for computational operations. It is essentially driven by the instrumental goal of controlling digital environments to intensify human-machine interaction and increasing click through rate (CTR).

Most logically, technologies are designed to optimise the relation between user profile and predictive product, and within surveillance capitalism this leads to the imperative that the more data that can be extracted the better the predictive product provided by algorithms. As result, a game of maximum input and maximum output is created in what Buzoff coined as the *Behavioural Value Reinvestment Cycle* (BVRC).

In the BVRC “all behavioural data are reinvested in the improvement of the product or service”.<sup>19</sup> Which narrows down to: the more data users provide, the better the algorithms function. Hence, applications and services provided by tech-companies are essentially data harvesters, and their strategies focus on intensifying the interaction and use of their apps and services. Zuboff affirms that the essential drive of machine intelligence projects are oriented towards the processing of bigger data heaps. Machine intelligence is the “ultimate tapeworm” and that the state of efficiency depends on the vastness of its diet<sup>20</sup>.

If we take the BVRC as a prototype for technological innovation, as often promoted in keynotes by CEO’s, it appears that what drives the industry of AI or whatever form of machine intelligence is essentially to increase the optimisation of the accuracy of prediction, accelerating the pipeline between raw-material and highly profitable algorithmic products.

The measurement of success – expressed in profit return – is therefore orthogonal to the quality of prediction, and the quality of prediction, again under corporate definition becomes the status of technological progress.

This means that within surveillance capitalism exploitation of life and technological progress are intrinsically linked. Capital’s tendency for limitless growth will increasingly probe for higher degrees of exploitation, and the competitive relation between humans and machine in the BVRC is the prototypical example. Moreover, algorithms under capitalist design will only exacerbate this vicious manipulated *zero sum game*<sup>21</sup>, where the gain in profit for tech-companies is in negative correlation to the increasing loss (degree of exploitation) for its users.

### REINFORCED COMPETITION AND CONTROL

Within the BVRC, the user and algorithm are positioned in a competitive environment. The more information the users provide, the higher the degree of exploitation but the higher the predictive analysis by the algorithm, the higher the economic pay-off. Thus the algorithm’s maximum performance measure minimizes the user’s performance measure. The goals of the agents within a competitive environment are in conflict. This may sound very simplistic, but it is a basic imperative in economic rational behaviour. The idea of rational behaviour in economic theory was first formalized in the late 18th century by Leon Walras in the concept of utility, and improved by Frank Ramsey and later by John von Neumann and Oskar Morgenstern in the concept of ‘game theory’.<sup>22</sup> Game theory describes the rational behaviour for agents in situations in which multiple agents act simultaneously, and wherein competition is a process

<sup>11</sup> Ibid.

<sup>12</sup> <https://www.amnesty.org/download/Documents/POL3014042019ENGLISH.PDF>

<sup>13</sup> Ibid.

<sup>14</sup> ZOBUFF, S. 2019, *In the Age of Surveillance Capitalism*, Profile Books, London

<sup>15</sup> <https://www.nytimes.com/2019/06/05/us/politics/amazon-apple-facebook-google-lobbying.html>

<sup>16</sup> <https://www.cnn.com/2019/06/09/google-is-techs-top-spender-on-lobbying-but-facebook-amazon-also-up.html>

<sup>17</sup> This basically leads to the corporate strategies of tech companies and their monopolist ambition to acquire every adjacent technology and potential competitors endangering their market share and control.

<sup>18</sup> This is the great power of machine learning that through algebraic operations it can reduce complex data patterns to more simpler representations.

<sup>19</sup> ZOBUFF, S. 2019, *In the Age of Surveillance Capitalism*, Profile Books, London

<sup>20</sup> Ibid.

<sup>21</sup> A *Zero-sum game* is a method in game theory and economic theory developed by John von Neumann and is described as a game “in which each participant’s gain or loss of utility is exactly balanced by the losses or gains of the utility of the other participants.” Source Wikipedia.

<sup>22</sup> NEUMANN VON, J. MORGENSTERN, O. 1944, *The Theory of Games and Economic Behaviour*, Princeton University Press, Princeton

of strategic decision-making that is performed under uncertainty.

Without delineating too far in game theory, as this is beyond the scope of this text, what makes it paramount presently is that it has become one of the pillars in AI research. More recently, in the architecture of generative adversarial networks (GAN), where two algorithms – generator and discriminator – compete in adversarial search for better performance. And, in reinforcement learning game theory forms the theoretical scheme for multi-agent interaction. The latter is a type of machine learning where an algorithmic agent is – or multiple agents are – programmed to obtain a specified goal within a closed environment and will use repetitive cycles to improve its own ability (learning from experience) to succeed in its objectives. The basic function is that the environment where the autonomous agent operates gives a feedback to the choice the agent makes by penalizing or rewarding its action, and successively generates a next state. This cycle repeats until the agent, ideally, over time learns how to reach a maximized output with minimal effort.

In the case of the BVRC, the user as agent has entered the loop of competitive exchange with artificial agents. A healthy competitive environment, or the basic premise of game theory, entails equal chances in gain for all agents involved. But what occurs in the BVRC is that the user's influence as participant becomes negligible or at worst does not participate at all. The user has transformed from being agent to the algorithm's environment itself. In this architecture the algorithm's program under corporate design will attempt to extract maximised output for higher profit return: optimisation of prediction, click-through rate or more specifically in the case of Youtube watch time.<sup>23</sup>

The rational design of the algorithm's program will attempt to maximize the reward function with minimum investment, ultimately probing solutions to modify the state of its environment to ensure maximum return. It manipulates the user into a modified environment where the user only fulfils the intent of the algorithm, eventually enforcing it in reinforced habituation.

The above is the basic premise of Nick Bostrom's thought experiment of instrumental convergence, in which he portrays a misaligned super intelligent AI in the metaphor of a "paperclip maximizer." In essence it states that any rational entity, which can have myriad final goals, nevertheless will have some instrumental goals. He names: self-preservation, goal-content integrity, cognitive enhancement, technological perfection and resource acquisition. And he illustrates this with the following:

*Suppose we have an AI whose only goal is to make as many paper clips as possible. The AI will realize quickly that it would be much better if there were no humans because humans might decide to switch it off. Because if humans do so, there would be fewer paper clips. Also, human bodies contain a lot of atoms that could be made into paper clips. The future that the AI would be trying to gear towards would be one in which there were a lot of paper clips but no humans.*<sup>24</sup>

Despite the apocalyptic imagination, the example appears trivial and banal, but – without suggesting that a Singularity is in proximity – if we scrutinise the algorithmic landscape closer, we see similar tendencies present in the objective goals of the infamous YouTube recommendation algorithm. The basic goal of the algorithm is to stick users as long as possible to their website.<sup>25,26</sup> Thus, it will recommend videos that are more likely to be clicked on and or watched at. If the algorithm's alignment is skewed and

void of any neutral program, it will no matter what attempt to incorporate the user as effectively as possible in its loop of capital accumulation, and like any rational agent influence its environment – in this case the user's mind – for maximum output.

You can imagine that engagement with the algorithm, or more concretely, the recommendation it puts on top of the list for you to click on, accelerates and proliferates in an automated unconscious loop in order to maximize click-through. The user becomes an extension of the technical ensemble, or machinic assemblage, and is entangled in what Guattari refers to as *machinic enslavement*. Where it only sets, as Lazzarato compliments Guattari, "things in motion by connecting directly to the 'nervous system, the brain, the memory, etc.'"<sup>27</sup> Machinic enslavement is the engagement with a system that does not generate any discourse. Lazzarato elaborates in a different essay, "machinic enslavement consists in mobilizing and modulating pre-individual, pre-cognitive and pre-verbal components of subjectivity, causing affects, perceptions and sensations as yet unindividuated or unassigned to a subject, etc. to function like the cogs and components in a machine."<sup>28</sup> The recommendation algorithm is essentially cultivating machinic enslavement, and attempts to bring the whole human apparatus under a "machinic unconscious".<sup>29</sup> First within modern industrialisation the body of the worker, and presently in the AI revolution under surveillance capitalism our cognitive capacity is subordinated to a capitalistic subjectification for basic pragmatic operators to function most effectively in its extractive processes. The black box ideologies that surround the nebula of AI only intensify this "dummy" relationship to machines.

That's why the "Black Box" critique should not only be directed at technological re-enunciation, but more importantly should incorporate a redefinition and critical re-engineering of

human-machine relations (machinic phylum) that must become the blueprint for epistemological and socio-political infrastructures. It should be even more imperative within the present tendencies of "the disappearance of the internet", as Google's former CEO Eric Schmidt has put it, that the internet "will be part of your presence all the time" with connected devices "that you won't even sense it."<sup>30</sup> Traits of it become obvious when computation itself is monetised in cloud platforms. All the technical parameters are obscured in "computational harvest farms", but with a real-time connection to our network of devices that render our behaviour extractable and susceptible to economic analysis. This application of economic analysis has extended from what we called market, throughout the whole social infrastructure on individuals as well as on collective commons. "who is this individual who is always susceptible to economic analysis?" Foucault asks and answers in *The Birth of Biopolitics: Homo oeconomicus*. The latter is an individual "who responds systematically to modifications in the variables of the environment, appears precisely as someone manageable, someone who responds systematically to systematic modifications artificially introduced into the environment. Homo oeconomicus is someone who is eminently governable. From being the intangible partner of laissez-fair [unrestrained capitalism], homo oeconomicus now becomes the correlate of a governmentality which will act on the environment and systematically modify its variables"<sup>31</sup>

Doesn't this sound as an alternative description of the reinforced loop between subjects (environment) and agents (algorithms) under the spell of the rationalization of surveillance capitalism?

This has proven to be most disappointing from the AI "revolution" and its connected research. The teleological focus from industries and institutions has cleared the way for relentless

<sup>23</sup> <https://thenextweb.com/google/2019/06/14/youtube-recommendations-toxic-algorithm-google-ai/>

<sup>24</sup> Nick Bostrom, as quoted in Miles, Kathleen (2014-08-22). "Artificial Intelligence May Doom The Human Race Within A Century, Oxford Professor Says". *Huffington Post*.

<sup>25</sup> <https://www.theguardian.com/technology/2018/feb/02/how-youtubes-algorithm-distorts-truth>

<sup>26</sup> <https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-works/575212/>

<sup>27</sup> LAZZARATO M., 2006, "Semiotic pluralism' and the New Government of Signs. Homage to Félix Guattari"

<sup>28</sup> <https://eipcp.net/transversal/1106/lazzarato/en.html>

<sup>29</sup> GUATTARI, F. & ADKINS, T. 2011. *The Machinic Unconscious: Essays in Schizoanalysis, Semiotexte/Smart Art*.

<sup>30</sup> <https://www.fastcompany.com/3041343/googles-eric-schmidt-predicts-the-disappearance-of-the-internet>

<sup>31</sup> FOUCAULT, M. 2008 *The Birth of Biopolitics*, Palgrave Macmillan, New York



experimentations in probing new methods and resources for capital extraction, and under the apologetic argument of “epistemological-” and “instrumental” rationality it has created a hype that machines will soon take over, but in fact corporations conservative attitude regarding the innovation of economies are the more immediate danger of rational instrumentality.

### WHEN THINGS WENT TOO FAR (RIGHT)

Over the past years YouTube has endured substantial criticism about the incentives and bias present in the recommendation algorithms that have obvious tendencies to promote and prosper by borderline content. The latter is defined by Google as “coming close to – but doesn’t quite cross the line of – violating our Community Guidelines.”<sup>32</sup>

There isn’t much disclosed about the inner workings behind the recommendation algorithms besides an outdated paper,<sup>33</sup> Google has activated a resurgence over the past months by publishing a series of blog posts on how the recommendations have improved, but alternative methods of research on the behaviour of the algorithms’ operations profusely show that the probability sensationalist and divisive content is promoted after trivial search queries is significantly higher than more modest content.<sup>34</sup> The simple explanation is that as people have the tendency – through media cultivation – to be curious toward more sensationalist content, they’re more likely to click on divisive content. Reciprocally the algorithm’s maximization function as instructed will suggest more polarised content as it retains a higher reward.<sup>35</sup>

This is a basic reinforced strategy that unless instructed otherwise will continue to intensify and

accelerate its pay off. The algorithm will discover that the reward reaches higher levels when it habituates the user to meet its conditions for the maximum payoff. The algorithm promotes maximizing content to the user, and in more extreme cases will cultivate users to an extremist environment. It is obvious that this exacerbating loop will be attracted towards superlative forms away from attention normalisation, putting the subjectification process in a discontinuous negative state of deterritorialisation.

Without a doubt the algorithm’s reward will be maximised when the complexity of the environment is between optimal thresholds: minimum parameters to operate appropriately and a maximum parameters that the algorithm rewards is met most profitably.

What started off as seemingly guileless as a recommendations system becomes a psychological operation that transforms the information ecosystem into a quagmire of extremist content and where “recommendation becomes command.”<sup>36</sup> The more polarised the environment the easier it is to measure the amplitude of the algorithm’s reward.

Similar to the BVRC’s objective, that is the optimisation of algorithms by demanding more data, the recommendation algorithm becomes more lucrative when it pushes media more likely to be clicked on or watch at. Within such a ‘simplistic’ utility this leads to a system where more clicks on extremist content lead to a higher reward, but its design neglect to consider that the content it pushes fosters extremist ideologies.

Eventually this leads to an exacerbated recursion or what is called in cybernetic terms a *positive feedback loop*. Positive, which does not mean good, but an amplification of disturbances that

lead to an increasing instability of a system, in our case disrupting socio-spatio-temporal systems with the intensification of extremities. The comparison becomes more pertinent and the problem more acute, given the globalized network with every user’s personally curated and idiosyncratic ideologies exponentially gravitating towards information that enforces their existing belief system of the world.<sup>37</sup> And moreover, where every fool’s opinion can take on mythological proportions.

The difference with the “old days” of media cultivation by television is that “television was crafted as a machinery of regulation, subjection and supervision by its “destructive capture of attention and desire”.<sup>38</sup> What we see now are blatant coercions that exert extreme behavioural manipulations on its users. It is as Deleuze

anticipates that “control societies” are hyper-industrialised societies and would give birth to an “art of control”. This form of holistic social engineering can only lead to a totalitarian system of traits we already see rising above the horizon.

We should ask ourselves, if the printing press propelled the Reformation, the radio Fascist ideologies and the television American Imperialism, which kind of regime would emerge from this generation of (badly designed) technologies?

–  
*My warmest gratitude goes toward Mishi Foltyn for her meticulous scrutiny in the editing of this text, and towards Alexander König for his always bold, but constructive criticism.*

### Martinus Suijkerbuijk

[martinussuijkerbuijk.net](http://martinussuijkerbuijk.net)



Photo: Hiske Athens

Martinus Suijkerbuijk’s diverse background forms the blueprint of his artistic practice. He holds a degree in Automation Engineering and Industrial Design. In 2017 he graduated from the International MFA program at the Trondheim Academy of Fine Arts where he also recently started his PhD.

Within his practice he continues to explore the fringes of art, technology and philosophy and probes new terrains for intersection within the potential of alliances and collaborations.

His focus on artificial intelligence accelerated during his MFA and together with his technical background has enabled him to work across industries. He has been invited to present his research and work at art institutions as well as technology conferences (CHI 2018). Moreover, parallel to his art practice he has maintained a freelance career consulting creative agencies on the potentials and pitfalls of digital technologies.

Presently his artistic research revolves around the topic of Critical Data Collection that probes novel ways of data collection to build solid digital infrastructures for the future.

His work is best understood as an experimental practice that connects, translates and operates across the borders of different media, artistic genres and disciplines.

<sup>37</sup> <https://medium.com/mother-jones/the-science-of-why-we-dont-believe-science-adfa0d026a7e>

<sup>38</sup> STIEGLER, B. *Automatic Society: The Future of Work*, Polity Press, Cambridge(UK)

<sup>32</sup> <https://www.forbes.com/sites/masonsands/2019/06/09/youtubes-borderline-content-is-a-hate-speech-quagmire/#7fc2862f6299>

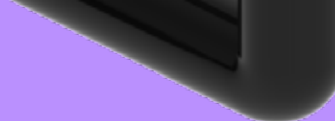
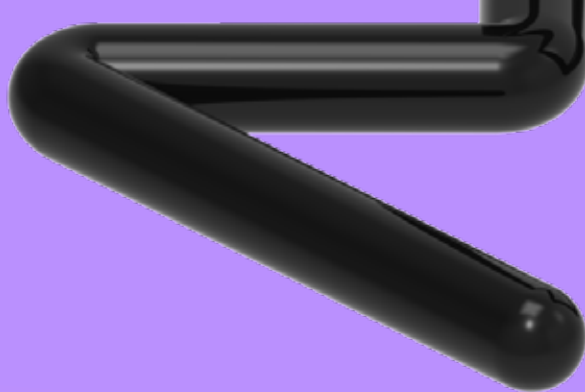
<sup>33</sup> <https://static.googleusercontent.com/media/research.google.com/nl//pubs/archive/45530.pdf>

<sup>34</sup> <https://www.wsj.com/articles/how-youtube-drives-viewers-to-the-internets-darkest-corners-1518020478>

<sup>35</sup> <https://www.theguardian.com/technology/2018/feb/02/how-youtubes-algorithm-distorts-truth>

<https://www.wsj.com/articles/how-youtube-drives-viewers-to-the-internets-darkest-corners-1518020478>

<sup>36</sup> Adorno and Horkheimer on the National Socialist propaganda methods through radio broadcasting in: ADORNO, T.W. HORHEIMER, M. 2002, *Dialectic of Enlightenment*, Stanford University Press



**META.MORF X**

**THE RULES OF THE GAME  
(SPILLETS REGLER)**

**EXHIBITION/WORKSHOP APRIL 22-MAY 3**

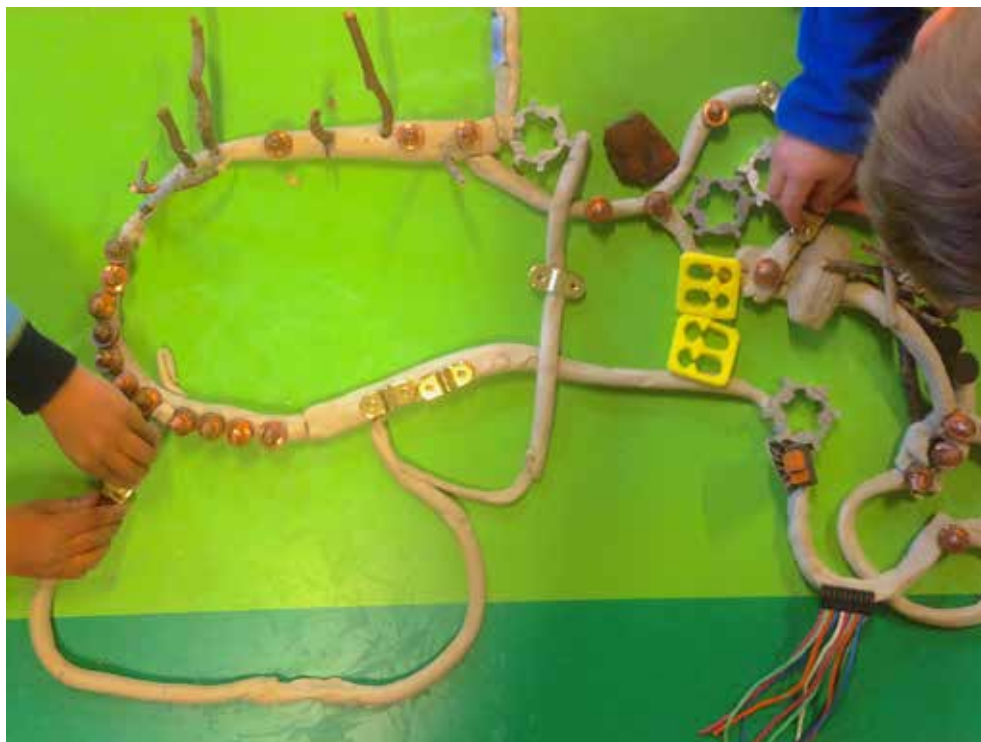
*REMIDA*

Curator: Pål Bøyesen



## REMIDA

### THE RULES OF THE GAME / SPILLETS REGLER



Fairytales are older than books, and today digital gaming is the main intermediary of the eternal battle between the good and the bad. Still, the structure of computer games mostly entail the same kind of dramaturgy as present in the old stories; stereotypical characters loose themselves in different mazes where they have to overcome various dangers in order to receive rewards in the other end.

To limit screen time, kindergartens and schools are setting up time rules. As a consequence a reverse strategy emerge among children, going from digital to analog, where i.e. the world of Pokémon Go are physical built and while playing become the basis for interaction and creative problem solving.

ReMida – Center for Creative Reuse – will invite groups of children to a central metamorphic space during Meta.Morf 2020 for building an analog game world by the use of recycled materials, showing our eternal creative urge to play, breaking the rules and invent new and exciting perspectives.







**META.MORF X - DIGITAL WILD**

TRONDHEIM SINFONIETTA:  
MATHIEU LACROIX **QUASAR**  
NATASHA BARRETT

**ISLANDS OF LOST PASSPORTS**  
EJNAR KANDING

**OBSCURE TRANSPARENCE 1 - MOSAICO 2**

LASSE MARHAUG:  
**THE FIRST EIGHT** (2016)  
**DEATH OF THE NOISE ARTIST** (2018)

**CONCERT MARCH 6**  
*DOKKHUSET*

HILDE MARIE HOLSEN: **EOCENE**  
GYRID NORDAL KALDESTAD  
& HILDE MARIE HOLSEN DUO  
DRONE OPERATØR, METTE RASMUSSEN &  
LASSE MARHAUG: **PERFORMANCE FOR  
DRONE, SAXOPHONE AND NOISE**  
MYRIAM BLEAU: **HYPERMOBILITY**

**CONCERT MARCH 7**  
*DOKKHUSET*

*DOORS OPEN @ 20:00 / CONCERTS START @ 20:30*

**TEKS**

**DOKK**<sub>huset</sub>

## DIGITAL WILD: CONCERT/ WORLD PREMIERE

### QUASAR (2020) by MATHIEU LACROIX<sup>[CA]</sup>

Performed by Trondheim Sinfonietta<sup>[NO]</sup>



What is the digital wild in music? Is it purely electronic music? Is it algorithmic music? Is it music without a set narrative? How can ecologies affect our musical perception and how can we create actual hybrids? What does music mean in a time when a neural network can create the "perfect" music for you?

For a long time, futuristic music was often fully or mostly electronic with many elements from popular musics and improvised musics. There was little place for the "old" ideas of through-composed music from the classical tradition. As much as I love many types of electronic music, I often find myself coming back to the simplicity of Beethoven's piano sonatas and be moved to tears. I can simulate almost perfectly the sound of a piano or a violin, but there is something that moves us more when it is in front of us in the same room: the personal imperfections, aesthetic choices of the musician(s) and the ephemeral feeling of a concert where you can feel the sound. The same way that we can

easily read a book on digital media, but there is something irreplaceable about the smell and feel of a book in front of us.

Using the latest technology does not make music modern or even part of the digital wild. The problems we face today are not as much on the technological side, but about how we address aesthetic issues. How does the use of this technology change the poetic process? From there, we can also look at the aesthesis of the work of art created. With the speed at which technology has evolved – especially in the last few years – we seem to have a collective amnesia that many of these musical and artistic issues were already raised in the 1960's and 70's. The technology (and its speed) has changed, but the poietics and aesthetic questions have stayed the same. Perhaps it is time we try to answer them?

Another important aspect is humanity (and/or transhumanity). What does humanity mean in music, and connected to this, what is

contemporary? The Italian composer Fausto Romitelli wrote that a composer is modern when she is reflecting on language as a fundamental of her composing. Humanity is imperfection, small interpretational changes and that the music reflects on our nature and environments. Music (and art) cannot reflect upon the human condition if it is only beautiful, only ugly, only conceptual, only sensual, only composed, only improvised, etc.

The music you will hear, reflects on all these aspects and takes inspiration from several phenomena connected to black holes and quantum physics. It is not meant purely conceptually, nor is it program music. It sits somewhere in between, as our nature is never exactly here, or there. Some musical parameters are taken and mapped directly from astrophysics research, but they do not illustrate in any way how a quasar would sound or move.

The twelve musicians on stage give us the human aspect. They will (probably) make mistakes, their tempi will not be perfect but these are human elements which make it worth listening to. The electronics will be here and there. An array of speakers around the audience will let you travel into the murky and cold space of the digital wild.

Speakers on the stage will form the avatar of the instrumentalists in this brave new world. At the heart of this music lies the dichotomy of human and electronic possibilities, the heart of the digital wild and all its kinky possibilities. The musicians play mainly through-composed music, with a few exceptions of open sections. The processes used in the writing for acoustic instruments have then often been transferred to computer programs which will use these processes further in real-time to create the electronics based on how the musicians are playing and interpreting the music. The electronics do not truly come to life without the presence of the human in music.

These possibilities for hybrid ecologies between electroacoustic and acoustic have interested me for many years. I feel that they are of our times, showing both the real and unreal. It shows us a hybrid in the same way as transhumanism. In essence, it shows us the possibilities and limits of our future.

 NTNU

 **KOMPONIST  
FORENINGEN**

**Det norske komponistfond**



### Mathieu Lacroix

Mathieu Lacroix is a French-Canadian composer based in Norway. He has a master's degree in music technology specializing in contemporary classical composition with electroacoustics. He has studied and/or participated in classes with composers like Natasha Barrett, Hans

Tutschku, Jaime Reis, Tristan Murail, Michael Obst, Trond Engum and Ståle Kleiberg. He has

studied at NTNU in Norway, IRCAM in France and Musiques & recherches in Belgium. He has been invited to festivals such as Mixtur in Spain and Manifeste in France. His music generally mixes acoustic instruments with electronic sound sources which can understand and interpret the music just as much as the musicians. He is currently a Ph.D candidate at NTNU in Norway analyzing the feedback loops between synchronization strategies and compositional processes in mixed music, using both academic and artistic research methods. Additionally, he also teaches in both music technology and classical music, and also worked as a sound engineer.

### Trondheim Sinfonietta

Trondheim Sinfonietta (TSi) is a gathering of professional musicians eager to explore new, fresh and challenging music. The last few years TSi increased the activity and the collaboration towards local composers. This has resulted in exciting projects influenced by jazz, nursery rhymes and Eastern and Scandinavian folk music. At the same time TSi has explored the works of international composers. The famous HK Gruber, Brett Dean and Steve Reich have all

successfully conducted their compositions with TSi. They received a Norwegian Grammy in 2008 and their concerts gain a lot of praise both from critics and audience. More recently TSi has also been on a Scandinavian tour playing music in four Scandinavian countries to present the different types of contemporary musics from each country. TSi has also recently released a new CD on the world-renown BIS records with music by Lindquist, Sørensen, Hosokawa and Norderval.



## DIGITAL WILD: CONCERT

THE FIRST EIGHT (2016)

DEATH OF THE NOISE ARTIST (2018)

Lasse Marhaug <sup>[NO]</sup>



### THE FIRST EIGHT (2016)

Multi-channel audio piece made on commission by INA-GRM which premiered at the PRESENCES électronique festival in Paris, 2016. The sound sources in this piece are mostly acoustic, including voice (Stine Janvin Motland), tuba (Martin Taxt), acoustic guitar (Håvard Skaset), double bass (Guro Moe) and percussion (Jaboc Felix Huele), but the source material has been edited and structured in such a way that sounds more like the electronic noise music Marhaug is known for.

### DEATH OF THE NOISE ARTIST (2018)

Multi-channel audio piece made on commission by Tectonics Festival, Glasgow in 2018. This is a 23 minute work that was made during a two year period in Nordland, above the arctic circle in the north of Norway, where Marhaug investigated the environment and surroundings in which he grew up, trying to find parallels in the landscape and his electronic noise music. The piece is a mixture of location recordings made during winter, and electronics inspired by the harsh arctic climate.



Photo: Tokihita Hata

### Lasse Marhaug

[lassemarhaug.no/biography](https://lassemarhaug.no/biography)

Lasse Marhaug (b. 1974) has since the early 1990s been one of the most active artists in the Norwegian noise/experimental music scene. As a performer and composer he has contributed to well over 300 CD, vinyl and cassette releases over the years, as well as extensive touring and performing live

on all continents of the world. In addition to his solo work, Marhaug has collaborated with many artists in the fields of noise, experimental, improv, jazz, rock and extreme metal, as well as working with music and sound for theatre, dance, installations, cinema and video. In 1990 Marhaug ran the TWR Tapes and Jazzassin Records labels. In the 2000s he ran the record labels Pica Disk and Prisma Records. In 2011 he started his own print publishing Marhaug Forlag. He has also been active as an organizer, promoter, producer and visual artist.

Marhaug was born and currently lives in Bodø, a city above the arctic circle in Norway.

## DIGITAL WILD: CONCERT

### EOCENE

Hilde Marie Holsen <sup>[NO]</sup>



Photo: Ruben Olsen Laerli

Piece commissioned by inaGRM, first performed with the Acousmonium at La Maison de la Radio France, in June 2019. All of the sounds in the piece are generated live from the trumpet, and live processed and spatialized on stage.

## DIGITAL WILD: CONCERT

### GYRID NORDAL KALDESTAD AND HILDE MARIE HOLSEN DUO



Photo: Svein Erik Toien

Holsen and Kaldestad's soundscapes grow out of small, amplified sounds of metal, water and wood, trumpet, voice and words. Their sounds build up massive textures of ambient sounds mixed with crackling and whispering sounds. They had their first performance at Kunsternes Hus in Oslo in November 2019.



Photo: Jenny Berger Myhre

## Hilde Marie Holsen

[hildeholsen.com](http://hildeholsen.com)

Norwegian Hilde Marie Holsen has carved out something very particular and niche in music. Processing her trumpet in the electronic realm, she blends the mournful tone of the brass instrument with the explorative field of electronic music to make music that lists somewhere between

jazz, the contemporary and drone music.

Holsen's music has unpicked the frayed boundaries of traditions, calling in a new generation of artists that abandoned stale and repetitive conventions in favour of establishing something unique, in the realms of contemporary music.

Holsen's debut album *Ask* was released on the Norwegian label Hubro in 2015, and hit the shelves with critical acclaim from amongst others *The Guardian*, *The Wire* and *The Quietus*. Since then, she's gone on to perform on a number of world stages, both as a solo artist and in collaboration with other musicians, while also continuing her work in the recorded field. In 2018, Holsen followed up with her second solo album, *Lazuli*, also released on Hubro, and was claimed to be "an almost shockingly complete musical statement".

Hilde Marie Holsen has played at numerous festivals and venues such as Punkt Festival (NO), Ultima Contemporary Music Festival (NO), 12Points (IR/ES), OsloJazz (NO), Rewire (NL) and London Jazz Festival (UK), as well as toured in Europe with concerts in a.o. Italy, UK, Switzerland, Belgium, France and Germany, both as a solo artist and together with musicians and bands such as FOOD, Morten Qvenild, Maja S. K. Ratkje, Sarah-Jane Summers, Lynn Cassiers, Samuel Rohrer, Silent Fires and Bilayer.

Hilde Marie Holsen has also had the chance to work with different commissions; in 2017 she worked with two commission pieces for two different festivals – Ultima Contemporary Music Festival and Førdefestivalen. Holsen has also composed music for art movies, and in 2019 she composed and performed a piece with the Acousmonium at inaGRM, Paris.



Photo: Svein Erik Toien

## Gyrid Nordal Kaldestad

[vimeo.com/channels/1442479](https://vimeo.com/channels/1442479)

Gyrid Nordal Kaldestad is a composer from the island of Stord on the west coast of Norway. Her background is in improvisation and electro-acoustic music, working with voice / song, live electronics, field recording and text writing for use in

songs and installations. She has been working as a composer and musician with theatre and dance performances where live electronics and electro-acoustic soundscapes has been a key part of the expression.

Gyrid is concerned with the relationship between the pure acoustic sound and various degrees of processing. Her main focus is working with sound and text in different forms (installations, concerts, improvisation), and is using custom made amplified objects of different kinds as instruments and loudspeakers. Her collaborators in recent years include commissions from the Montreal-based percussion quartet Architek Percussion, and the London-based violinist Mira Benjamin, collaborative projects with Are Lothe Kolbeinsen and Anne Hytta in her trio Kaldestad, and the project Processing the surroundings with composers Tine Surel Lange and Kristin Bolstad. In November 2019 she started as an Artistic Research Fellow at NTNU, Institute for Music, department of Music Technology.



## DIGITAL WILD: CONCERT PERFORMANCE FOR DRONE, SAXOPHONE AND NOISE

Drone Operatør <sup>[DE]</sup>, Mette Rasmussen <sup>[DK/NO]</sup> & Lasse Marhaug <sup>[NO]</sup>



Image: Nicola Sindric

Conceptual jazz duo Drone Operatør presents a performance for Drone and musicians, featuring the Norwegian saxophone player, Mette Rasmussen, and Norwegian noise artist Lasse Marhaug.

Drone operated @ Dokkhuset by INBOVI

INBOVI

### Drone Operatør: Paul Barsch & Tilman Hornig

[www.droneoperator.info](http://www.droneoperator.info)  
[soundcloud.com/droneoperator](https://soundcloud.com/droneoperator)

DRONE OPERATØR is the musical venture of artists Paul Barsch and Tilman Hornig that started its prolific career as a conceptual kleptomaniac, post-digital free jazz outfit about 3 years ago. Since then they have created several

live Performances featuring Jazz musicians and drones and more than 280 songs or 16 hours of experimental and free form quasi-jazz, respectively, that are continuously released on SoundCloud.



### Mette Rasmussen

[facebook.com/mette.rasmussen.560](https://facebook.com/mette.rasmussen.560)

Is a saxophone player situated in Trondheim, Norway, but born and raised in Denmark. Last 7 years, she has been touring the road most of the year, all over the world. From Australia to Japan, Singapore, USA, Canada, Russia, Scandinavia, UK and Europe.

In the recent year she has been touring with among others Godspeed You! Black Emperor throughout France, Australia and USA, Chris Corsano throughout Europe and Japan, Sofia Jernberg throughout Australia, her own Quintet consisting of Torbjørn Zetterberg and Johan Berthling on bass, Raymond Strid and Paul Lytton on drums, The Hatch with guitarist Julien Desprez, in duo with Tashi Dorji and been doing an extensively amount of solo shows all over the world. And been in projects and doing collaborations with among others and to name a few; MoE, Craig Taborn, Barry Guy, Michiyo Yagi and Kaiji Haino.

Her ability to move between the often strict confines of genres and explore sound and texture in solo affairs aswell as in collaborations, has been the foundation of creating her own personal vision of the role of the saxophone. Her performances ties together audience and artist, and embodies the energy between the two.



Photo: Tokihita Hata

### Lasse Marhaug

[lassemarhaug.no/biography](http://lassemarhaug.no/biography)

Lasse Marhaug (b. 1974) has since the early 1990s been one of the most active artists in the Norwegian noise/experimental music scene. As a performer and composer he has contributed to well over 300 CD, vinyl and cassette releases over the years, as well as extensive touring and performing live

jazz, rock and extreme metal, as well as working with music and sound for theatre, dance, installations, cinema and video. In 1990 Marhaug ran the TWR Tapes and Jazzassin Records labels. In the 2000s he ran the record labels Pica Disk and Prisma Records. In 2011 he started his own print publishing Marhaug Forlag. He has also been active as an organizer, promoter, producer and visual artist. Marhaug was born and currently lives in Bodø, a city above the arctic circle in Norway.

on all continents of the world. In addition to his solo work, Marhaug has collaborated with many artists in the fields of noise, experimental, improv,

# DIGITAL WILD: CONCERT

## HYPERMOBILITY

Myriam Bleau <sup>[CA]</sup>



Photo: Aigi Boga

*Hypermobility* is an audiovisual performance combining distilled techno allusions with volumetric laser projections. Hyperkinetic patterns of morphing synthesis are visualized through a laser beam creating sculpted planes of light above the audience. *Hypermobility* refers both to extreme physical flexibility and to the addictive concept of hypermobile travel, frequent trips often over great distances and the alarming environmental impact.



Photo: Severin Smith

### Myriam Bleau

[myriambleau.com](http://myriambleau.com)  
[soundcloud.com/myriambleau](https://soundcloud.com/myriambleau)

Myriam Bleau is a composer, digital artist and performer based in Montreal. She creates audiovisual systems that go beyond the screen, such as sound installations and performance-specific musical interfaces. Her hybrid electronic practice investigates

music performance as a codified cultural manifestation and recontextualizes pop culture elements and music history tropes. Her work has been recognized and presented internationally : Prix Ars Electronica (AT), Sónar (ES, HK), Sonic Arts Award (IT), Elektra (CA), Mutek (MX, BR, CA, JP), Transmediale (DE), ACT (KR), L.E.V. (ES), Scopitone (FR), Cafe Oto (UK).

## **META.MORF X**

JEREMY WELSH / ALEX MURRAY-LESLIE  
/ MICHAEL FRANCIS DUCH / ØYVIND  
BRANDTSEGG / MAGDALENA MANDERLOVA /  
NANNA KLITH HOUGAARD / TROND LOSSIUS /  
CRAIG WELLS / TIJS HAM

**PIXELS :: FRAMES :: BEATS :: DRONES**

**CONCERT MARCH 24**

**ONGOING PERFORMANCES BETWEEN 14:00 AND 18:00**

*GALLERY KIT, TRONDHEIM*

*COLLABORATION BETWEEN KIT/NTNU AND KMD/UIB*

Curator: Jeremy Welsh





## META.MORF X – CONCERT

### PIXELS :: FRAMES :: BEATS :: DRONES

Works by Michael Francis Duch, Øyvind Brandtsegg, Craig Wells, Tijs Ham & Jeremy Welsh



Photo: From concert at Sounds and Spaces in Galleri KIT, Trondheim, April 2019.

An open-form, trans-disciplinary, improvisational performance by a diverse group of visual and sonic artists. Members of the group have previously worked together in different configurations, but not previously all together as in this project.

Pixels :: Frames :: Beats :: Drones is developed in three parts. First, an intensive workshop at the artist residency centre Surnadal Billag, where the elements for a spatially constructed series of audio-visual events will be developed in collaboration. Rehearsals and impromptu performances are to be documented with sound and vision, and this documentation will form part of the material to be used further in the performance for MetaMorf.

The project's second phase, during MetaMorf, will be a one-day event in Galleri KIT, Trondheim

on the 24th of March, 2020. Here, the ideas developed during the workshop in Surnadal will be tested in public, further refined, developed and modified. The entire performance is a processual work-in-progress rather than a completed production. Content will be modified and adjusted to suit the spatial characteristics of the gallery and its acoustic qualities. Again, the sections of the performance here will be documented and taken further as source material for the next iteration.

The third phase of the project will be presented as a "public rehearsal" at the SAR (Society for Artistic Research) annual conference, to be held in Bergen immediately after the Trondheim event. At SAR, the performance will take place within a framework that includes direct interaction and discourse with the public, which will include conference delegates and a general audience.

Pixels :: Frames :: Beats :: Drones builds upon the experience of earlier projects by group members and is envisaged as an experimental, cumulative, investigative and associative exploration of audio-visual interactions within specific spatial and temporal settings.

#### **THE GROUP CONSISTS OF:**

**Jeremy Welsh** (project initiator) audio-visual artist, Professor at Trondheim Academy of Fine Art

**Alex Murray-Leslie**, member of performance group Chicks on Speed and Guest Professor at Trondheim Academy of Fine Art

**Michael Francis Duch**, musician, researcher and Associate Professor, Department of Music, NTNU, Trondheim

**Øyvind Brandtsegg**, musician, developer, researcher and Professor of Music Technology, Department of Music, NTNU, Trondheim

**Magdalena Manderlova**, artist and musician working between Trondheim and Prague

**Nanna Klith Hougaard**, artist and musician working between Trondheim and Copenhagen

**Trond Lossius**, sound artist, developer and researcher based in Bergen

**Craig Wells**, sound artist/composer, PhD researcher at Faculty of Art, Music & Design, University of Bergen

**Tijs Ham**, sound artist/composer, PhD researcher at Faculty of Art, Music & Design, University of Bergen



## **META.MORF X**

**INSTITUTO STOCOS  
PIANO & DANCER II**

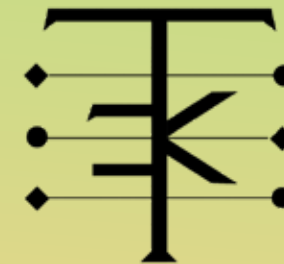
### **PERFORMANCES**

**MARCH 26-28 @ 19:00 (3 performances, 50 min)**

**MARCH 28-29 @ 14:00 (2 performances, 50 min)**

*TRONDHJEMS KUNSTFORENING*

Curator: Elena Perez



## META.MORF X – PERFORMANCE

### PIANO & DANCER II

Instituto Stocos <sup>[ES]</sup>



Photo: Gunter Krammer

**On stage, a dancer and a piano. There is no pianist. The dancer starts making her choreography and the instrument's keys move responding to her gestures. The music sounds even if her body does not touch the instrument.**

*Piano & Dancer II* is an interactive dance piece for a dancer and a mechanical piano. The piece presents the dancer and the piano as two performers whose movements are mutually interdependent. Specifically, the music of the piece is produced by the mechanical movements of the piano, which are a real-time response to the gestures and expressiveness of the dancer.

In this way, the spectator can perceive acoustically intimate aspects of the dance choreography that are usually hidden through the sound that the movements generate.

*Piano and Dancer II* is a clear, direct and intuitive work art and technology where two disciplines interact, music and dance, to push each other's boundaries, supported by state-of-the-art technology that has been developed following artistic needs. The result is a hybrid form: a finely composed dance performance but also a high-quality piece of music.

*Piano & Dancer II* is curated and produced by Trondhjems Kunstforening in collaboration with Meta.Morf 2020. The previous version of the piece has been shown in a range of European theatre houses. *Piano & Dancer II* is a new version adapted to the intimate rooms of an art gallery. Special thanks to Institute of Music Technology at NTNU for letting us borrow the mechanical piano.

CHOREOGRAPHY: Muriel Romero  
MUSIC: Pablo Palacio  
PERFORMANCE: Muriel Romero  
SOFTWARE AND INTERACTIVE TECHNOLOGY: Pablo Palacio, and Daniel Bisig.  
ARTIFICIAL INTELLIGENCE DESIGN: Daniel Bisig  
CURATOR and DRAMATURG: Elena Pérez  
PRODUCTION: Instituto Stocos, Trondhjems Kunstforening  
DISSEMINATION: Trondhjems Kunstforening and Meta.Morf

SUPPORTS: EU ICT H2020, Comunidad de Madrid, La Casa Encendida (Spain), Unterwegs Theater (Heidelberg, Germany), Infomus-Casa Paganini-University de Genova (Italy) and Institute for Computer Music and Sound Technology of Zurich (Switzerland).

SUPPORTS for Piano&Dancer II: AC/E Programme for the Internationalization of Spanish Culture (PICE), Trondhjems Kunstforening (TKF) and Trondheim Electronic Art Center (TEKS).

## AC/E

Supported by:  
PICE Mobility Grants Accion Cultural Espanola



Photo: Gunter Krammer

## INSTITUTO STOCOS

Founded by dancer Muriel Romero, musician Pablo Palacio and media artist Daniel Bisig, Instituto Stocos is a Spanish-based group developing performance works and research at the intersection between body gesture, music and interactive visual imagery. They also seek inspiration in other fields by integrating methods, elements and abstractions from artificial intelligence, biology, mathematics and experimental psychology.

Works they have created are, among others: *Acusmatrix* (2008), *Catexis* (2010), *Double Bind* (2012), *Neural Narratives 1: Phantom Limb* (2013), *Neural Narratives 2: Polytopya* (2015), *Piano & Dancer* (2016), *The Marriage of Heaven and Hell* (2017) and *Oecumene* (2019), which recently premiered at Píksel festival in Bergen. All these

works have toured extensively nationally and internationally in both dance and music networks.

The productions utilize tailor-made technologies, often developed as part of large, pioneering European research projects, such as the Horizon 2020 projects *WholoDance*, *Metabody* or *D.A.N.C.E.* These projects have led Stocos to collaborate closely with groups and institutions working with art and science such as Coventry University, Politecnico de Milano, Motek, TMA Hellerau, Hyperbody TU Delft, Brunel University, K Danse and REverso among others. Instituto Stocos also organizes cultural events that disseminate transdisciplinary artistic forms involving new technologies in the field of art and science. The theoretical body they generate is studied in conservatories and universities all over the world.



Photos: Ximena y Sergio

## Muriel Romero & Pablo Palacio

Muriel Romero (Murcia, 1972) is a dancer and choreographer. Her work investigates generative choreographic structures and the incorporation of abstractions taken from other disciplines such as music or mathematics. She has won several international prizes such as Moscow International Ballet Competition, Prix de la Fondation de Paris-Prix de Lausanne and Premio Nacional de Danza. She has been first soloist in some of the most prestigious companies around the world including Deutsche Opera Berlin, Dresden Semper Opera Ballet, Bayerisches Staatsballet Munchen, Gran Théâtre de Genève and Compañía Nacional de Danza. During her career

she has worked with renowned contemporary choreographers such as William Forsythe, Jiří Kylian, Ohad Naharin, Nacho Duato and Saburo Teshigawara. She currently teaches at the Professional Conservatory of Madrid, where she also lives.

Pablo Palacio (Laredo, 1976) is an independent composer who focuses on algorithmic approaches in music and the sonification of physical movement, currently living in Madrid. His compositions have been performed nationally and internationally, and they are released by the label Sub Rosa in the Anthology of Noise and Electronic Music. He co-directs Instituto Stocos, an interdisciplinary artist-group that creates artworks, develops technologies and publishes research on the interaction between body gesture, music and interactive visual imagery. He has disseminated this work through publications, workshops, and talks in conservatories, university conferences and art institutions such as International Symposium of Movement and Computing, International Computer Music Conference, Missouri State University, and Kunsthall Trondheim among many others.



# META.MORF X

## CURATORS



**Pål Bøyese** <sup>[NO]</sup>

### Rules of the Game @ ReMIDA

Pål Bøyese (1967) is a visual artist. He graduated from the art academy in Trondheim 1999. Bøyese has been an active part of the performance theatre

scene in Trondheim and have exhibited sculptural work and drawings at multiple arenas in Norway.

Bøyese is artistic leader of the ReMida center since 2009.



**Zane Cerpina** <sup>[NO/LV]</sup>

[bezane.net](http://bezane.net)

### Digital Wild Conference @ Dokkhuset Faen Exhibition: Fy Faen Så Bra @ Galleri KiT The Norwegian Media Art Library @ TKM Gråmølina

Zane Cerpina is Oslo based artist, curator, organizer, and publisher working within experimental new media and electronic arts. Zane currently works as

LABVERDE (Brazil 2017), and other events in UK, Croatia, Lithuania, Latvia, Norway, etc.

Her extensive body of works includes curating and producing FAEN – Female Artistic Experiments Norway (2019-); The Dangerous Futures Conference (2018); Oslo Flaneur Festival (2016) and The Anthropocene Cookbook event series (2016-). Zane is one of the curators of The Temporary Library of Norwegian Media Art produced by TEKS. She has done editorial work at The Journal of Somaesthetics (2014-2017) and written for Neural Magazine. Her writing and editorial work also include the ongoing publication series: The PNEK FILES (2015-2019), and editorial work of the upcoming book – Electronic Art in Norway.

project manager/curator at TEKS (Trondheim Electronic Arts Centre) and editor and manager at EE: Experimental Emerging Art Journal, Norway. From 2015 to 2019 she worked as creative manager and editor at PNEK (Production Network for Electronic Art, Norway).

Zane is internationally active as a lecturer and presenter at venues. She has been part of Extravagant Bodies Festival by Kontejner (Croatia 2019), ISEA (International Symposium of Electronic Arts (Vancouver 2015, Hong Kong 2016, Manizales 2017, Gwangju 2019), V2\_ (the Netherlands, 2016), STRAND (Serbia 2016),



**Espen Gangvik** <sup>[NO]</sup>

[espen.gangvik.no](http://espen.gangvik.no)

### Digital Wild Exhibition @ TKM Gråmølina Digital Wild Concerts @ Dokkhuset The Agreement @ TEKS.studio The Long Now @ Vitensenteret

Espen Gangvik is a Norwegian artist and curator. He graduated from Trondheim Academy of Fine Art in 1984. Gangvik has participated in numerous group exhibitions at home and abroad, and has since 1986 undertaken a number of commissions and is represented in several public collections.

production and dissemination of art practises that utilise and debate new technologies. He is currently the General Manager of the foundation. TEKS is the founder and organizer of the Trondheim international biennale for art and technology, Meta.Morf

In 2002 Gangvik founded TEKS – Trondheim Electronic Arts Centre – which aims to facilitate



**Sara Cornelia Greiff** <sup>[NO]</sup>

### Dada Manifesto @ Kunstmuseet Nord-Trøndelag

Sara Cornelia Greiff is since 2011 the head of Kunstmuseet Nord-Trøndelag, Namsos. Greiff has previously worked as curator in Copenhagen where she in 2008 finished her masters in Art history and Practical curating at the

University of Copenhagen. She has strengthened its dissemination program and continuously strives to facilitate a high quality and current art program.

# META.MORF X

## CURATORS



Photo: Brittany Nelson

### Stefanie Hessler <sup>[DE]</sup>

#### Geocinema @ Kunsthall Trondheim

Stefanie Hessler is a curator and writer. She is the director of Kunsthall Trondheim.

Her work focuses on interdisciplinary processes and close and long-term collaborations with artists and researchers from different fields.

Recent curatorial projects include "Joan Jonas: Moving Off the Land II" at Ocean Space, Venice (2019); "Armin Linke: Prospecting Ocean" at the Institute of Marine Science, Venice (2018); the 6th Athens Biennale "ANTI" (2018); and the symposium "Practices of Attention" at the 33rd Biennial de São Paulo (2018). Her monographic book *Prospecting Ocean* was published by The MIT Press in December 2019.



### Steffen Wesselvold Holden <sup>[NO]</sup>

#### Virtual Jewellery and 3D Makeup @ Nordenfjeldske Kunstindustrimuseum

Steffen Wesselvold Holden (b. 1976) majored in Art History at the Norwegian University of Science and Technology in 2006. He now works as curator at the National Museum of Decorative Arts and Designs.



Photo: Diana Lindbjerg

### Elena Pérez <sup>[ES]</sup>

#### Piano and Dancer II @ Trondhjems Kunstforening

Elena Pérez (Madrid, 1978) is the artistic director at Trondheim Art Society. She holds a PhD in art and technology from the Norwegian University of Science and Technology (2016),

where she investigated the use of digital media in contemporary performance. She curates, writes and teaches on topics related to performance, technology, visual art and gaming and their intersection.



### Lena Katrine Sokki <sup>[NO]</sup>

#### Pater\_Noster\_2020 @ Babel Visningsrom for Kunst

Lena Katrine Sokki (b. 1980) completed her master's degree in fine art at Trondheim Art Academy (KIT, NTNU) in 2013. She lives in Trondheim, from where she works both with her own art practice and within the art field in general. For the past ten years, the

being two artists behind one artistic expression. Besides this practice, Lena Katrine Sokki has been engaged in a number of other collaborative projects within in the frame of relational art. Since 2018 she has been the project leader of the artist run gallery Babel visningsrom for kunst, Trondheim. As a curator Lena Katrine Sokki is concerned about the conditions for artists working in the contemporary field.

artist duo Lena Katrine & Heidi-Anett has been the central part of her art practice and together with Heidi-Anett Haugen (b.1985), they have explored the symbiotic and parallel conditions of

# META.MORF X

## CURATORS

**TRØNDELAG  
SENTER  
FOR  
SAMTIDSKUNST**

TSSK Artistic Board:

Artists Lars Skjelbreia, Tovelise Røkke-Olsen and  
General manager Randi Martine Brockmann

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**Mellomrom @ Trøndelag Senter for Samtidskunst**  
**Punkt.Kontinuum @ Trøndelag Senter for Samtidskunst**



**Jeremy Welsh** <sup>[NO/UK]</sup>

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[jewelsh.blogspot.com](http://jewelsh.blogspot.com)

**Pixels :: Frames :: Beats :: Drones @ Gallery KiT**

Education:  
Nottingham Trent  
University (1977)  
Goldsmiths College  
University of London  
(1982).

Exhibitions producer,  
London Video Arts,  
1982–88. Director,

Film & Video Umbrella UK 1988–90. Associate  
Professor Trondheim Academy of Art, 1990–96.  
Professor, Trondheim Academy of Art, NTNU,  
1996–2001. Professor Bergen Academy of Art &  
Design, 2001–2013. Dean of Fine Art, 2012–2014.  
Professor, Trondheim Academy of Fine Art,  
NTNU, 2014–2020.

Jeremy has been active as visual artist and  
curator in video, installation, sound and photo  
internationally since 1977. Current work includes  
collaborative, expanded performance projects  
with musicians, sound artists, visual artists. He  
works in major collections including The National  
Museum, Oslo and Trondheim Art Museum.  
Public Art commissions in Norway 2000–2012.

In memoriam



Our dear friend  
**Alex Adriaansens**

1953–2018

Curator, Meta.Morf 2007–2018

## META.MORF X PARTNERS

### BABEL VISNINGSROM FOR KUNST

**Babel Visningsrom for kunst**  
[babelkunst.no](http://babelkunst.no)

Babel is run by Lademoen Artist Workshops (LKV) and was established as an independent art space in 2006. Babel is an experimental space for international guest artist and collaborative projects. The space also includes the small niche bookstore Babel Bok.

### DOKKHuset

**Dokkhuset**  
[dokkhuset.no](http://dokkhuset.no)

Dokkhuset is a concert scene located on Nedre Elvehavn in Trondheim. The Dokkhuset scene presents chamber music and jazz, new music, world music and other musical expressions.

Dokkhuset Scene AS was established in the autumn of 2006 by the four organizations Trondheim Chamber Music Festival (TKF), Trondheim Jazz Forum (TJF), TrondheimSolistene (TS) and Midnorsk Jazzsenter (MNJ).



**Kosmorama**

**Kosmorama**  
[kosmorama.no](http://kosmorama.no)

Kosmorama Trondheim International Film Festival is one of the largest film festivals in Norway, with more than 30 000 annual visitors. The festival is held annually in March, and fills the cinema centre with a specially curated film program for seven days.

The festival was founded in 2005, and has since become an important arena for quality film in Norway. Kosmorama strives to have a culturally and geographically diverse film program, and wishes to provide our audience with new perspectives on the world and times in which we live in.



**Kunstakademiet i Trondheim, NTNU  
Galleri KiT**  
[kit.ntnu.no](http://kit.ntnu.no)

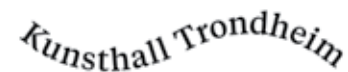
KiT is a department of the Faculty of Architecture and Fine Art at the Norwegian University of Science and Technology (NTNU). It is organized as a flexible and experimental educational and research institution and is well known as the first art academy in the Nordic countries to offer education in media art. Today, the unique environment for art and technology in NTNU allows students on Master and Bachelor level to expand the depth and complexity of their studio practice and to experiment with new approaches across different disciplines and technologies. Currently, the Academy is hosting two artistic research projects as well as three research fellows within the Norwegian Artistic Research Programme.

### kunstmuseet NORDTRØNDELAG

**Kunstmuseet Nord-Trøndelag**  
[kunstmuseet.no](http://kunstmuseet.no)

Kunstmuseet Nord-Trøndelag is one of five divisions of Museet Midt. The museum conveys shifting contemporary art exhibitions as well as art works from its permanent collection which consists of around 2000 works. The museum also holds a permanent exhibition of Norwegian artist Johs. Rian (1891–1981). In addition Namsos Kunstforening disposes parts of the museum space, and shows amongst other the annual Namdal scholarship exhibition.

Kunstmuseet Nord-Trøndelag offers tours and pedagogical packages for kindergartens and schools. The museum also arrange free art workshops for children and youth every first Saturday of each month. The museum has its own shop offering quality art and design.



**Kunsthall Trondheim**  
[kunsthalltrondheim.no](http://kunsthalltrondheim.no)

Kunsthall Trondheim is a contemporary art institution with an international focus. In addition to ambitious solo and group exhibitions with renowned and emerging artists, the programme includes a variety of engaging events on a weekly basis, including concerts, performances, film screenings, artist talks and workshops. Since opening its doors to the public in the newly renovated fire station in the city centre in 2016, Kunsthall Trondheim now enters the second phase of its existence. The programme for 2020 and the coming years will reach out to organisations in Trondheim as well as nationally and internationally to foster collaborations and

transdisciplinary dialogues. The aim is to facilitate in-depth research that is closely connected to urgent themes locally and internationally, such as ecology, science, technology, gender, migration, and education.



**Litteraturhuset i Trondheim**  
[litteraturhusetitrondheim.no](http://litteraturhusetitrondheim.no)

“Litteraturhuset i Trondheim” opened in 2016, and has since then conducted more than 1000 events with emphasises on dissemination of literature, knowledge and public debate. Litteraturhuset resides at Trondheim’s so called “cultural block”, and collaborates intimately with its neighbours, Kunsthall Trondheim and DIGS, where most of the events takes place. Litteraturhuset collaborates with operators of different kind throughout Trøndelag county.



**MIST**  
[mist.no](http://mist.no)

The museums in Sør-Trøndelag are a central cultural player both nationally and regionally and have an important social role. We want to put people at the center, focus on cultural diversity, participation and inclusion.



## META.MORF X PARTNERS



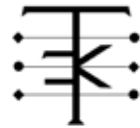
**Nordenfjeldske Kunstindustrimuseum**  
[nkim.no](http://nkim.no)

NKIM has a responsibility to collect, manage, and exhibit arts and crafts, and industrial design. The museum was founded in 1893, and as well as collecting crafts from the past, the museum has always maintained a focus on contemporary works. This has resulted in the museum's current extensive collection of both historical and modern works, encompassing 17<sup>th</sup> century baroque silverworks, an impressive Art Nouveau collection, two custom designed office interiors, Japanese ceramics, and modern applied art – these are but a few of the permanent exhibits.



**ReMida**  
[reggioemilia.no/remida-trondheim](http://reggioemilia.no/remida-trondheim)

ReMidasenteret i Trondheim er Norges eneste godkjente ReMida. Senteret har eksistert siden 2009 og er helfinansiert av Trondheim kommune. ReMidasenteret i Trondheim retter seg i hovedsak mot barn og unge i alderen 1–16 år, men er også åpne for andre interesserte som ansatte og studenter ved høyskoler, universiteter og voksenopplæring. Målet er å skape et senter som tilbyr barn og pedagoger overskuddsmaterialer fra butikker/bedrifter. Disse materialene skal motiverer til utforskning. ReMida er et kulturprosjekt som vektlegger miljø, pedagogikk og estetiske tilnæringsmåter.



**Trondhjems Kunstforening**  
[tkf.no](http://tkf.no)

Trondhjems Kunstforening – is a volunteer organization with approximately 500 members. The association was founded in 1845 and is one of Norway's oldest cultural institutions.

We have the ambition of being a necessary and courageous viewing spot, offering varied exhibitions and high-quality projects within Norwegian contemporary art. Exhibitions are spread over two floors, and during 2016 we will among others carry out 13 separate and group/collective exhibitions disseminating different art forms and genres. On the 1<sup>st</sup> floor you'll find the main gallery and administration, and at the ground floor primarily wall based art is presented. Here you can also visit Café Ni Muser.

Trondhjems Art Association dwells in the old bishop's residence in Bispegata 9A close to Nidaros Cathedral. Our nearest neighbor is Trondheim Art Museum.

## Trondheim kunstmuseum

**Trondheim Kunstmuseum (TKM)**  
[trondheimkunstmuseum.no](http://trondheimkunstmuseum.no)

TKM has an extensive collection of Norwegian and international art displayed alongside contemporary art in two venues. TKM Bispegata is the museum's main venue, located near the cathedral. TKM Gråmølina in Trenerys gate at Nedre Elvehavn is a venue for local, national and international contemporary art exhibitions. You can also see the permanent art gift from Trondheim artist Håkon Bleken.



**Trondheim Sinfonietta**  
[trondheimsinfonietta.no](http://trondheimsinfonietta.no)

Trondheim Sinfonietta (TSi) is a gathering of professional musicians eager to explore new, fresh and challenging music. The last few years TSi increased the activity and the collaboration towards local composers. This has resulted in exciting projects influenced by jazz, nursery rhymes and Eastern and Scandinavian folk music. At the same time TSi has explored the works of international composers. The famous HK Gruber, Brett Dean and Steve Reich have all successfully conducted their compositions with TSi. They received a Norwegian Grammy in 2008 and their concerts gain a lot of praise both from critics and audience. More recently TSi has also been on a Scandinavian tour playing music in four Scandinavian countries to present the different types of contemporary musics from each country. TSi has also recently released a new CD on the world-renown BIS records with music by Lindquist, Sørensen, Hosokawa and Norderval.

## TRØNDELAG SENTER FOR SAMTIDSKUNST

**Trøndelag Senter for Samtidskunst (TSSK)**  
[samtidskunst.no](http://samtidskunst.no)

TSSK is a regional arts center for Trøndelag established in 1976 in Trondheim. The center has a showroom for innovative visual contemporary art and handicrafts of individual artists and artist groups. Besides the exhibition production, the center works as a regional center of expertise for public art, and is a meeting place for projects, seminars and debates.



**Vitensenteret i Trondheim**  
[vitensenteret.com](http://vitensenteret.com)

is a non-profit organisation that shall seek to raise interest and understanding for science studies with kids and youth, motivate creative zest and contribute to the average competence within the society. The Science Center aim to be an integrated part of Trondheim's knowledge environment and is an arena for profiling Norway's capital of technology.



# META.MORF X: DIGITAL WILD

TRONDHEIM INTERNATIONAL BIENNALE FOR ART AND TECHNOLOGY

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**TEKS**

TRONDHEIM ELECTRONIC ARTS CENTRE

