

Me_Eat Jack: Bio-Art and the Ethics of Meat Consumption

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Abstract

This paper explores the technoetic aesthetics of ‘moistmedia’ in the context of contemporary bio-art as pertinent media for prompting contemplation on the environmental ramifications of meat consumption and the potential role of lab-produced meat as a sustainable solution. The artist, a 3rd-year undergraduate student from Roy Ascott Advanced Program in Technoetic Arts in Shanghai, initiates a thought-provoking exploration by cultivating lab mice cells in Petri dishes in collaboration with a team of scientists of the Shanghai Jiao Tong University College of Basic Medical Sciences, as part of a performance in which he simulated the sampling of his bone marrow, subsequently packing the mice cultivated cells like meat products, symbolizing the intimate connection between humans and the animals we consume. The culmination of this artistic endeavor presents these cells’ culture as a tangible product on supermarket shelves, challenging societal norms. This experience aims to elicit an emotional response, fostering a profound understanding of the shared impact of meat consumption among all animal species. By integrating lab procedures and technology, and bio art strategies, this exploration invites the audience to confront the ethical and ecological dimensions of their dietary choices. The synthesis of science, art, and public engagement positions this project as a catalyst for discussions surrounding the urgency of sustainable alternatives, such as lab-grown meat, in mitigating the environmental consequences of traditional meat production.

Keywords

Environmental Impact of Meat Consumption, Meat Consumption, Moistmedia, Lab-grown meat, SymbioticA, Bioart, posthumanism, speculative practice.

Introduction

Exploring the intersection of biology, technology, and societal reflection has given rise to innovative practices that challenge our perceptions and provoke contemplation on the complex relationships between humans, animals, and the environment. This paper sets out to explore the pioneering works of two visionary artists, Ionat Zurr of SymbioticA at The University of Western Australia, and Roy Ascott, both of whom have made significant contributions to the art produced in the convergence of art, technology, and science.

Roy Ascott, a luminary in the field of media art, has pioneered the concept of moistmedia [1], a term encapsulating the integration of biological, digital, and cultural systems. Ascott's visionary approach to art and technology has sought to transcend the constraints of traditional mediums, offering a holistic perspective on the interconnectedness of living systems. His work prompts audiences to reconsider their relationship with technology, the environment, and each other.

Ionat Zurr, through her groundbreaking endeavors at SymbioticA, has been at the forefront of interrogating the boundaries between art and the biological sciences. With a focus on bio art Zurr's works [2] have explored the ethical implications of manipulating living organisms for artistic expression. In particular, her previous artworks on lab-grown meat have challenged conventional notions of sustenance and consumption, providing a unique lens through which to examine the environmental impact of traditional meat production.

Theresa Schubert in her project “mEat me” [3] used a serum, gained out of her blood, to reproduce her muscle cells that had previously been extracted. The resulting cultured meat from human tissue shifts is intended to invite to meditate on the dissolution of the consumerist hierarchies between humans and animals to suggest a new perspective on food supply. The related performance “mEat me”, staged at Galerija Kapelica in 2020, welcomes elements of alchemistic practice and lab-based industry aesthetics, questioning the inviolability of the human body and criticizing capitalist meat production and consumption.

Recent scientific studies bolster the relevance of these artistic endeavors. Cultured meat or meat created in vitro by tissue engineering methods, as explored in the study by Hanna L. Tuomisto and M. Joost Teixeira Matos [4] is being researched as a possible more effective and healthful substitute for traditional meat, and, large-scale production of cultured beef, was evaluated for its environmental impact using the life cycle assessment (LCA) research approach [4]. The researcher hypothesized that muscle cell development used the hydrolysate of cyanobacteria as a source of nutrition and energy. According to the findings [4], depending on the product being evaluated, cultured meat uses 7–45% % less energy, 78–96% less greenhouse gas emissions, 99% less land, and 82–96% less water than conventionally produced European meat.

This paper seeks to explore the symbiotic threads that connect the bio art explorations of Ionat Zurr and the moistmedia visions of Roy Ascott, with a specific focus on their respective engagements with the themes of lab-grown meat and the environmental consequences of meat consumption. In particular, Ascott's ideas resonate with the themes explored in “Lab Grown Everything,” where the intersection of biotechnology and environmental sustainability is critically examined. By examining their previous artworks and discourse we aim to illuminate the impact these artists have had on shaping discourse around the intersections of art, science, and sustainability.

According to Stef Bottinelli [5], writing for Food Matters Live, cultured meat has a long history dating back several years. In 2002, Morris Benjaminson, a professor at Touro College in the US, and his colleagues gave growth media more precisely, fetal bovine serum portions of goldfish muscles that were removed. They discovered that the samples had expanded by 14% after about a week. Rather than attempting to discover a technique to reduce greenhouse gas emissions, the NASA-funded initiative focused on investigating innovative methods for astronauts to produce food in space. Jason Matheny, who was pursuing a master's degree in public health at Johns Hopkins University at the time, was motivated by the project. As Bottinelli highlights [5] during a residency at Harvard Medical School three years prior, bio artists Oron Catts and Ionat Zurr successfully created semi-living steaks from prenatal sheep cells that later derived the project *Disembodied Cousine* [6].

According to Bottinelli [5] People for the Ethical Treatment of Animals (PETA) became interested as well, seeing cultured meat as a potential substitute for factory farming. In a paper published in *Frontiers* as part of the Cellular Agriculture: Biotechnology for Sustainable Food research, Neil Stephens from Brunel University, Alexandra E. Sexton from Oxford University, and Clemens Driessen from Wageningen University mentioned that in 2008, PETA offered \$1 million for the first group to sell in-vitro chicken that was indistinguishable from livestock chicken in ten US states and PETA President Ingrid Newkirk led the campaign, but Bruce Friedrich, who subsequently co-founded the plant-based meat advocacy group the Good Food Institute (GFI) and CM (cultured meat), was a major force behind it.

The Norwegian Food Research Institute hosted the inaugural In-Vitro Meat Symposium in 2008. The first International Symposium on Cultured Meat was presented by New Harvest in 2015 at Maastricht University. A year later, the institution organized the New Harvest Conference in San Francisco. There were more events in Israel, Japan, and the UK, indicating a discernible interest and advancement in the field of cultured meat. Many people were finally inspired to form start-ups by this new wave of scientists who were investigating the viability and production of cultured meat. One such person was Shir Friedman, the Head of Operations at the Israeli cultured chicken company SuperMeat.

Navigating methodologies, concepts, and societal implications of artists' explorations of meat consumption implications as well the work of scientists start-ups, and organizations pro-animal rights, we aim to contribute to the ongoing dialogue surrounding the potential of artistic practices to foster critical reflections on our relationship with the natural world using the moist as a media in our practice. The inclusion of Catts and Zurr's perspectives and additional perspectives such as the one of Theresa Schubert, provides a comprehensive view, further enriching our understanding of the complexities and potentialities at the nexus of art, science, and environmental ethics.

Disembodiment and Disassembly: Incursions

Exploring the realm of bio art and the ethical dimensions of biotechnology, Ionat Zurr's project "*Disembodied Cuisine*" [6] provocatively delves into the potential of cultivating victimless meat through tissue culture.

This initiative not only presented a novel conceptual framework but also challenged established norms surrounding sustenance, ethics, and artistic expression.

In "*Disembodied Cuisine*," [6] Zurr and her collaborators ingeniously navigate the ethical complexities associated with lab-grown meat production. They establish a temporary on-site laboratory, a symbolic space where art and science converge. This laboratory serves as a microcosm for the larger dialogue on bioethics, engaging viewers in a direct encounter with scientific experimentation, thus diminishing the traditional boundaries between art, biology, and technology.

The performative aspect of "*Disembodied Cuisine*" was particularly noteworthy. The artists' act of consuming the cultured tissues they cultivated becomes a powerful statement on the intersection of art, science, and sustenance. This act, far more than a mere spectacle, invites a multi-sensory engagement and facilitates a deeper understanding of the implications of emerging biotechnologies. It also serves as a critical commentary on the conventional food production systems and the potential paradigm shift towards sustainable and ethical alternatives.

In our proposal, we seek to explore aspects embedded in "*Disembodied Cuisine*," focusing on its role in stimulating a broader discourse on ethical considerations in biotechnological art. We employ a multidisciplinary approach, incorporating theoretical frameworks from bioethics, art history, and environmental sustainability, to dissect the nuances of victimless meat and its performative, ethical, and ecological implications. By doing so, we aim to illuminate how Zurr's artistic endeavors not only reflect but also shape contemporary debates on the interconnectedness of humanity, technology, and the environment. This exploration contributes to the understanding of how visionary projects like "*Disembodied Cuisine*" are pivotal in reconceptualizing the narratives of bio art and its societal impact.

The process of disassembling not only speaks to the physical dismantling of bodies in the context of meat production but also to the conceptual dissection of the ethical premises upon which such practices are built and even the disembodiment when we have lab-grown 'animal-less' or 'bodiless' meat.

For the moistmedia exploration here presented, the bioartist foray into the places where these practices are a reality, leading him to the Shanghai Beef And Mutton Co., the city's remaining abattoir amidst a government-led [7] reconfiguration of such facilities [8]. Despite it being a day off from production, the photographs the artist took of the facility's interior and workshops (figure 1) were a stark testament to the space's intended purpose.

The stench that met the artist peered through the cracks was potent (figure 2), evoking a visceral reaction of disgust and a profound sense of irony. The same species subjected to systematic disassembly for consumption are often hidden from the public's sensitive palate. The animals once hung and bled out on these hooks, their flesh methodically carved, echo a disassembly line that has been sanitarily concealed from the collective conscience.

In stark contrast stands the 1933 Old Millfun [8], once among the world's largest slaughterhouses and now a renovated cultural hotspot. Here, the traces of its former function are buried beneath layers of entertainment and leisure activities [8]. As visitors stroll through the galleries and event spaces, there is an omnipresent, albeit unacknowledged, history of mechanized slaughter. This repurposing serves as a metaphor for societal denial and selective memory, where the unpleasant realities of animal disassembly are cloaked in the guise of cultural rejuvenation.



Figure 1. Closed butcher workshop in Shanghai Beef And Mutton Co., visited by the author. Image by the artist.

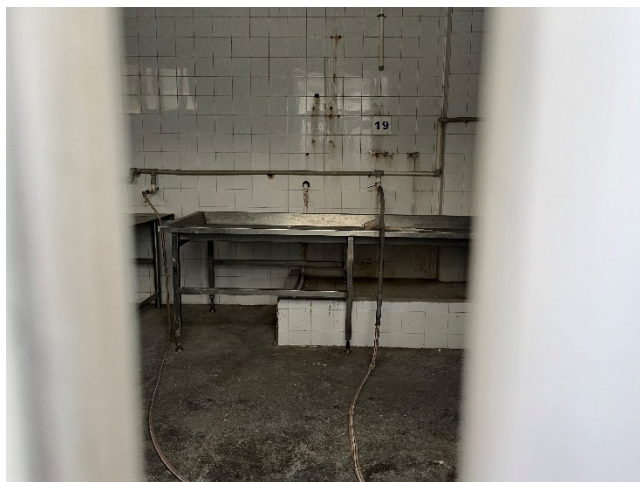


Figure 2. Peer through the crack of the gate to the butcher workshop. Shanghai Beef And Mutton Co., visited by the author. Image by the artist.

Such juxtapositions highlight the essence of the "Disembodiment and Disassembly" concept. They compel us to confront the physical realities and the subsequent disassociation that occurs in the journey from the slaughterhouse to the supper table. Through the project, "Me_Eat Jack," the artist aims to re-contextualize this disassembly, not to sanitize or hide it, but to present it unflinchingly as a mirror to our dissociations and hypocrisies.

Me_Eat Jack

In confronting the stringent restrictions surrounding the use of human tissue, the project "Me_eat Jack" evolves into a fusion of bio-art and performance, implying the cultivation of mice cells in the lab (figure 3) as if they were human cells navigating the boundaries of humans and non-humans distinctions. Through this approach, the artist explores the delicate boundaries of legality and perception, suggesting to the public an engagement with the very fibers of human corporeality without transgressing prohibitive boundaries. This strategy not only circumvents the legal limitations but also challenges the audience to question the reality of what they witness.



Figure 3. Centrifuges in experiment. Image by the artist.

In a collaborative effort to bring "Me_eat Jack" to fruition, the artist partnered with scientists from the Shanghai Jiao Tong University College of Basic Medical Sciences to brainstorm viable approaches. Balancing the feasibility of the procedures, the proposal included a performance exploring the potential shock of the artist's body value for the public, deciding to stage a performance simulating bone marrow extraction (figure 4). This performance is intended not just to exhibit the semblance of engaging with human tissue but to provoke thought and dialogue about the ethics and personal boundaries of using one's own body as a site for artistic creation.



Figure 4 "Jack's cells sampling" performance. Image by Shanghai Jiao Tong University College of Basic Medical Sciences.

The production of "Me_eat Jack" included shooting sessions of the artist performing as a patient lying down to undergo a simulated surgical procedure — a sampling of bone marrow. Subsequently, the artist captured images of red bone marrow fluid (figure 4) —sourced from laboratory mice that were to be discarded — and documented the experimental process. Finally, it was possible to compile all these elements onto a web page (figure 5), linked through a QR code affixed to the plastic wrap of the artwork (Figure 6 and 7). This digital layer of the project mimics the electronic traceability systems used for meat products, drawing a parallel between the consumption of animal products and the hypothetical use of human-derived substances.

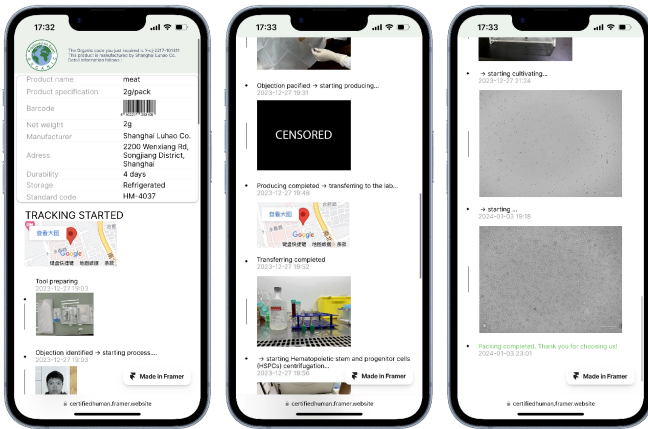


Figure 5. A webpage that can be accessed by scanning the QR code in the "Me_eat Jack" packaging. Image by the artist.

Subsequently, the artist designed the packaging for "Me_eat Jack," creatively appropriating existing animal welfare logos. The idea was to alter the logos by incorporating human figures, symbolizing the indistinct boundary between humans and animals. This design choice (figures 6 and 7) serves as a poignant visual statement, challenging viewers to reconsider the perceived divide between human and animal treatment and rights.



Figures 6. Package design by the artist for "Me_eat Jack" (2023-2024). Image by the artist.



Figures 7. Package design by the artist for "Me_eat Jack" (2023-2024). Image by the artist.

Furthering the realism of the piece, the artist also crafted packaging typical of meat products (figures 6 and 7). This aspect of the design was crucial in enhancing the authenticity of the artwork, making it resonate more deeply with viewers by mimicking the familiar experience of seeing meat products in everyday settings. The packaging not only encases the artwork but also becomes an integral part of the message, highlighting the commodification of biological entities, whether animal or ostensibly human.

In the production of "Me_eat Jack," the team of scientists from the Shanghai Jiao Tong University College of Basic Medical Sciences, incorporated the technique known as the Colony Formation Unit (CFU) Cell Assay. This sophisticated approach in cellular biology was pivotal in the attempts to conceptually proliferate cells. After numerous trials, it achieved success in cultivating cells that conceptually replicate, a result that proved to be startling for the audience. This technical achievement underpins the core narrative of "Me_eat Jack." The project is designed not just as a spectacle but as a profound experiential journey for the viewer. The narrative created is meant to viscerally convey the transformation of a brutal concept – the mechanics of industrialized slaughter – into a consumer product that is widely accepted and enjoyed. This progression in the artwork aims to re-establish a connection that has been systematically obscured: the cruel realities of assembly line slaughterhouses and our consumption of meat.

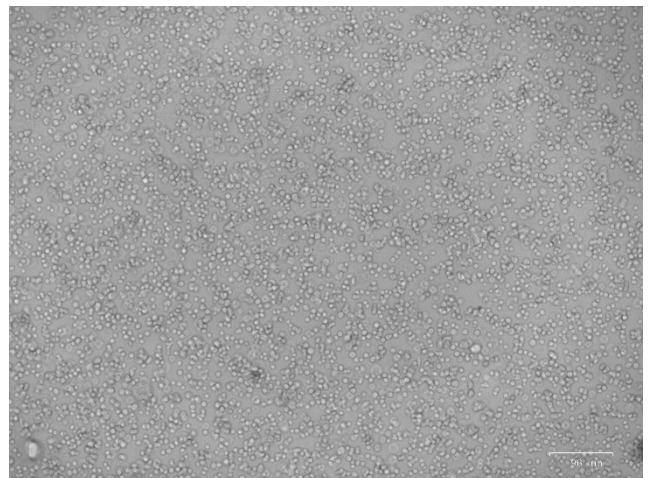


Figure 8. The colony forming unit (CFU) cell assay result. Image by the artist.

By employing the CFU Cell Assay, (figure 8) "Me_eat Jack" doesn't just present a hypothetical scenario; it anchors the narrative in a tangible scientific process. This grounding in real-world biotechnology enhances the impact of the artwork, making the narrative more relatable and impactful forcing the audience to confront the uncomfortable truths about our consumption habits and to reconsider the ethical implications of our dietary choices. Through "Me_eat Jack," the artist seeks to illuminate the often ignored link between the brutality of meat production and the sanitized, packaged products that end up on consumer plates. In the collaborative journey of creating "Me_eat Jack," the involvement of scientists and medical professionals brought an unexpected and fascinating dimension to the artistic process.

Their unique perspectives and skills contributed significantly to the depth and impact of the project. A particularly striking example of this occurred during the staged simulated surgical performance of bone marrow sampling, a key element of "Me_eat Jack." As the artist performing the surgery/sampling, he was unable to take photographs of the process. This task was handed over to a medical student, whose photographic skills captured the essence of the performance. The resulting images (Figure 4) show the team of scientist's openness in actively contributing to the artist's intentions.

In these photos, the intention was to highlight the transformation the artist's body underwent during the staged surgery/sampling—step by step, as the procedure progressed, the artist's body appeared less and less human and more akin to an animal being processed for consumption. This unintended outcome of the photographs added a profound layer to the narrative of "Me_eat Jack." It visually encapsulated the central theme of the project—the blurring of lines between human and animal, life and commodity.

This unforeseen development in the project highlighted the power of interdisciplinary collaboration in bio art. The medical student's perspective, coming from a background of science and medicine, offered a unique viewpoint, capturing the essence of "Me_eat Jack" in a way that profoundly communicated its message. It underscored the transformative power of art and its ability to alter perceptions, challenging viewers to confront the unsettling parallels between human and animal treatment in the context of medical and meat-processing industries.

The intention was to highlight the fact that the transformation of personal biological material into a commodified product is not only a physical process but also a virtual one. By employing the methodology of digital traceability—commonly used for tracking the origin and journey of food products. The artist symbolically navigated the process of turning the self into an object for consumption. This act of 'digitalizing the self' challenges the audience to reflect on the nuances of our relationship with what we consume and the ethical implications of such consumption in the digital age. The project, therefore, becomes a multi-layered exploration—it's not just about the physical act of presenting oneself as a product but also about the deeper implications of how technology shapes our perception and interaction with both ourselves and the natural world.

The creation and production of "Me_eat Jack" are deeply entwined with the inspiration drawn from "Disembodied Cuisine" and the groundbreaking work at SymbioticA and other pioneering artist in our field that explored moist media as valid media in the visual arts. The intention was to build a dialogue with projects that delve into the realm of bio art but with distinct nuances and approaches to the subject matter of cultivated biological matter.

Final Considerations

"Me_eat Jack," transcends its physical and technical aspects, probing into the profound and existential questions: "What is life? What is cruelty?" These queries lie at the heart of the project, driving a narrative that compels the audience to confront the often uncomfortable realities of existence and ethical ambiguity.

Through the lens of bio-art and the use of cellular technology, "Me_eat Jack" challenges traditional perceptions of life, pushing viewers to consider where the line between living and non-living entities blurs, especially in the context of consumption and commodification. The project doesn't offer definitive answers but instead opens up a space for dialogue and introspection.

The exploration of cruelty in "Me_eat Jack" is multilayered, addressing the physical cruelty evident in meat production and extending to the conceptual cruelty embedded in the detachment and desensitization of consumers to the origins of their food. By juxtaposing the biological aspect of life with the ethical considerations of cruelty, the artwork fosters a critical examination of our societal norms and personal ethics.

"Me_eat Jack" stands as a reflective mirror to society, inviting viewers to delve deeper into the essence of life and the morality of our choices. It's an invitation to re-evaluate our relationship with the natural world and to ponder the broader implications of our technological advancements in biotechnology. Ultimately, "Me_eat Jack" is a catalyst for a broader conversation about life, humanity, and our responsibilities as conscious beings in an increasingly complex world.

"Disembodied Cuisine," by Ionat Zurr, focused on the cultivation of lab-grown meat, presenting a tangible example of how biotechnology can intersect with everyday life in the form of alternative sustenance. This project not only challenged the conventional notions of food production and consumption but also posed profound ethical questions about the manipulation of living organisms.

In a time when technology permeates every area of our lives and has finally made it possible for our bodies to be rebuilt, "mEat me" by Theresa Schubert, challenges us to reevaluate how we relate to meat, our bodies, and materiality. It also raises ethical concerns about laboratory procedures. "mEat me" is an artistic research project that uses cutting-edge biotechnology beyond a commercial or scientific goal. It addresses the pressing issue of food availability in an era of mass meat production and its importance to our consciousness as well as our survival as a species. The climate issue cannot be stopped by accepting the status quo, and if people do not realize that purchasing cheap pork from the grocery store is linked to a global calamity, then neither can the world.

In email conversations with the artist Hege Tapio on January 14th, 2024 [9], she suggests the artist get to know the project ‘Ouroboros Steak grow-your-own human meat kit’ [10] by a group of artists and scientists who grown ‘Ouroboros Steak’ by the diner at home using their cells, which are harvested from the inside of their cheek and fed serum derived from expired, donated blood. The resulting pieces of meat, on display as prototypes at the Beazley Designs of the Year exhibition in 2020, were created entirely without causing harm to animals. This is not the case for actual lab-grown bovine meat that relies on fetal bovine serum (FBS).

Similarly to those projects, "Me_eat Jack" explores these ethical dimensions but shifts the focus from animal cells to human-derived materials.

By creating an artwork that seemingly uses my tissues, the artist confronts the audience with a more personalized and direct challenge to their perceptions of traditional meat consumption and its ethical implications. The use of the artist's simulated bodily material as a medium serves to blur the lines between the self and the other, the consumer and the consumed, thereby echoing the themes of interconnectivity and ethical complexity present in "Disembodied Cuisine."

Bioart projects such as those mentioned here, can be seen as sharing a common goal in utilizing bio-art as a platform to provoke thought and discussion about the future of biotechnological advancements, sustainability, and the ethical limits of artistic expression.

"Me_eat Jack," inspired by the ethos of SymbioticA and "Disembodied Cuisine," and other bioart works here mentioned, carries forward the dialogue on these critical issues, pushing the boundaries of how art can be used to explore and critique the rapidly evolving relationship between humanity, technology, and the natural world.

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Authors Biographies

Jack Yang, a 3rd-year undergraduate student of Roy Ascott Studio Advanced Program in Technoetic Arts, is a Shanghai-born and based media artist, whose work transcends traditional mediums, reflecting a dynamic engagement with Technoetic Aesthetics exploration, merging the interest in cyberception and bioart with a specific focus on the concept of moistmedia, navigating cutting-edge research outcomes in biological sciences, chemistry and biochemistry, neurosciences and its entanglements with Artificial Intelligence. With a curiosity that navigates through the vast terrains of digital landscapes and organic matter, Jack Yang's artistic practice is not confined to a single medium. Instead, his creations offer a versatile exploration of form and content, constantly pushing the boundaries of artistic expression.

Dr. Clarissa Ribeiro, Program Coordinator of the Roy Ascott Studio Advanced Program in Technoetic Arts at SIVA/DeTao in Shanghai, has been honored with the Pete Townshend Endowed Senior Lectureship in Performative Technoetics (2022-2024). Ph.D. in Arts (ECA USP Brazil, Poéticas Digitais/CAiiA hub of The Planetary Collegium, UK), Fulbright Postdoctoral Scholarship awardee (UCLA, Art|Sci Center/James Gimzewski Lab, USA), M.Arch. (IA USP, Brazil), B.Arch, member of the UCLA Art|Sci Collective (2013-present), is the chair of the first Leonardo/ISAST LASER talks to be hosted in Brazil/Latin America (2017-present). The core of her explorations is the interest in cross-scale information and communication dynamics that impact and shape macro-scale emergent phenomena. She has been exploring the metaphysics of information visualization in subversive morphogenetic strategies that welcome the animistic to navigate ecologies as cosmologies.