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INCUBATOR Lab: Re-Imagining our Biotech Future Through Art / Science Research

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Submission date: September 2017 Accepted date: October 2017 Published in: December 2017

Abstract

INCUBATOR: Hybrid Laboratory at the Intersection of Art, Science and Ecology, is a bioart research and teaching facility housed in the School of Creative Arts at University of Windsor in Canada. Founded in 2009 by Dr. Jennifer Willet, INCUBATOR houses ongoing student and faculty bioart projects, science and technology studies research, and special events investigating the intersection of biotechnology, art and ecology. This paper traces for readers the fundamental conceptual premise of INCUBATOR lab activities, the complex ecological entanglement between contemporary laboratory practices and our planetary ecology as a case study to elucidate the research/creation process at play within the lab.

Keywords

bioart, art / science, biotechnology, social practice, art and ecology

Incubator Lab:

Cómo re-imaginar un futuro biotecnológico por medio de la investigación en el arte y la ciencia

Resumen

INCUBATOR: El Laboratorio Híbrido en la intersección de Arte, Ciencia y Ecología es una herramienta para la investigación y la enseñanza del bioarte que se encuentra en la Escuela de Artes Creativas de la Universidad de Windsor en Canadá. Fundado en 2009 por la Dr. Jennifer Willet, INCUBATOR alberga proyectos de bioarte de alumnos y de la facultad, investigaciones

Artnodes, no. 20 (2017) | ISSN 1695-5951

sobre estudios de ciencias y tecnología y eventos especiales que investigan la intersección de biotecnología, arte y ecología. Este artículo describe a sus lectores la premisa conceptual fundamental de las actividades de laboratorio de INCUBATOR y el complejo entramado ecológico entre las prácticas de laboratorio contemporáneo y nuestra ecología planetaria como un ejemplo para elucidar el proceso de investigación / creación que entra en juego en el laboratorio.

Palabras clave

bioarte, arte / ciencia, biotecnología, práctica social, arte y ecología

We are living in a time where our perceived relationship with the earth's ecology is undergoing significant change. In the same instance that we are losing biodiversity within our terrestrial and aquatic ecologies, we are producing an exponentially growing biomass of new organisms and biomaterials through science, medicine, and agricultural technologies. The distinctions we have historically drawn between what is 'natural,' and what is unnatural, virtual, or invasive are deeply complicated. We are populating our laboratories, our farms and our bodies with a new genealogy of life (E. coli x1776, BioSteel[™] Goat, Flavr Savr Tomatoes CGN-89564-2) marking a new technological era called 'post-natural' or 'post-biological.' We are living in an age of biological uncertainty, where we have difficulty collectively imagining a stable bio-technological, bio-economic, biopolitical and bio-environmental future. With these uncertainties can come great anxiety in imagining possible dystopian outcomes; but uncertainty can also be seen as an opportunity for reimagining and reorienting established trajectories towards alternative, sustainable biotech futures. Artists and cultural producers see great opportunity for social, political, technical, and aesthetic transformation in times of uncertainty through performative actions, alternative knowledge structures and communal experiments within the biotechnological domain.

Specifically, I see great potential in the growing international field of bioart for experimentation with alternative visions of the biotech future. Bioart is a contemporary art practice where the media of production is biological in nature. Artists often utilize protocols from the biological sciences in the production of artworks within this genre. Bioart is a politicized practice as most practitioners are not specialized scientists, though they often engage with specialized scientific protocols in their research/creation. Additionally, bioethics becomes a central consideration in the field as bioart intrinsically involves manipulation of life towards aesthetic ends.

In 2009, I founded a bioart studio/laboratory at the University of Windsor called INCUBATOR Lab. INCUBATOR Lab functions as an apparatus in which environmental conditions can be controlled towards the assisted proliferation of life, but also as a site that supports the proliferation of new ideas – new artistic practices, and alternative imaginations of the biotech future. Physically and INCUBATOR Lab: Re-Imagining our Biotech Future...

metaphorically INCUBATOR serves as site for innovative productive and performative imaginings of biotechnology as a technology of the body – part of *a complex ecology* – that implicates each of us intellectually and biologically in the continued propagation of the life sciences. INCUBATOR also serves as an educational facility hosting the annual undergraduate class "Bioart: Contemporary Art and the Life Sciences." The class engages in bioart research activities and students serve as artists, participants, collaborators and employees of the lab. The lab itself serves as an exhibition venue for biological artworks, as an art installation exploring alternative laboratory aesthetics, and as a home base for a series of field research stations and bioart events.

Let me present for you a case study of INCUBATOR Lab art/ science events as producing alternative visions of our shared biotech future. I will trace for you the evolution of a set of ideas through collaborative research/creation methodologies and into the public sphere. INCUBATOR Lab events are often linked to my own art/ science research practice, but snowball into larger collaborative interventions in institutions, cities and ecologies. Methodologically these events engage practically and theoretically with interdisciplinary bioart practices through creative, scientific, and social/collaborative experimental models.



Image 1. INCUBATOR: Laboratory Twin Mural Exhibited at the Ontario Science Centre 2013 Photo: Arturo Herrera

Artnodes, no. 20 (2017) | ISSN 1695-5951

Biotech Species as Co-Producing our Shared Ecology

My own research and creative practice is focused on re-imagining the perceived role of biotech species as deeply interconnected with our shared ecology. Essentially, ecology is constituted by the interactions between organisms and their environment; including the interactions they have with have with each other and with their environment. The ecological sciences are focused on the scientific study of these relationships. Essential to this practice is the understanding that "organisms interact with one another (no species, anywhere in nature, lives in splendid isolation) and with their environment" (Lawton, 1999). Rachel Clarson in *Silent Spring* reminds us that notions of ecology not only apply to the visible natural world, but also the "world within our bodies, and the bodies of other species" (Carson, 1962). Additionally, ecology is not just a biological science, but also a human science, one that investigates the relations of humans to their natural, social and built environment (Odum, Brewer and Barrett, 2005).

Given the long-standing agreed knowledge set provided to us from the ecological sciences why do we persist in conceiving of biotech species as distinct from other more 'natural' organisms? There are a variety of reasons, ones of taxonomy, taboo, aesthetics, politics, economy, discipline-based territorialism, and a disinterest in dwelling on the suffering of laboratory organisms. Let's explore a few of these reasons including discipline based rationales, corporate needs, and our aversion to suffering.

Possibly one rationale for why we imagine biotech species as separate from the natural ecology has to do with the community standards of laboratory-based sciences. Within the scientific community there is a 'great divide' in the interpretation and value of experimental methods (and results) devised within the laboratory and in the field. Laboratory-based experimental methods are focused on isolating a single distinction between two sets of data; one generated by the experiment and the data generated by a control group for comparison. In order to accomplish this, the specimen under study must be isolated from all other possible variables to ensure that both groups are experiencing only one differential between the two. This strategy often produces reliable, repeatable scientific results but it is considered by some to be insufficient as that data is generated under artificial circumstances, and contributing to a narrow reductionist view of life on this planet (Latour, Woolgar, 1979). In the ecological sciences researchers are more focused on gathering data from organisms within their natural environment. With this method, it is impossible to guarantee that two data sets have been exposed to exactly the same conditions - opening up their results to wild amounts of contingency. (Lawton, 1999). However, some researchers feel that although data collected in the field is less accurate in one sense, it is more accurate in the sense that all other environmental influences (even those unknown to the researcher) are directly influencing the experimental

INCUBATOR Lab: Re-Imagining our Biotech Future...

results. Given that biotech species are a byproduct of laboratory sciences it is understandable that a community dedicated to isolating biological data from its contingent environment, would also perceive any offspring of laboratory-based science as also separate from the natural world. Additionally, if biotech species were understood to be co-constitutive of our shared ecology by the laboratory community, that might imply that an ecological perspective is impossible to avoid even within the confines of the lab.



Image 2. Bioart: Contemporary Art and the Life Sciences Class Dr. Jennifer Willet School of Visual Arts The University of Windsor 2009

Another significant contributor to our perception of biotech species as separate from the external ecology is economic in nature. Biotech organisms and biomaterials are understood legally and practically as commodities, products, resources, media, and intellectual property. Their distribution and proliferation are regulated, monitored and market driven. They are proprietary life forms, housed and stored in highly controlled environments, not open to public scrutiny. The bio-industrial economy is a powerful economic force. The industry has argued successfully that commercial incentives are the best motivator towards biotechnological development, and without proprietary control of the biotech species generated in research labs there is no money to be made in this sector. If instead we conceive of biotech species as a part of life on this planet, notions of sustainability, animal welfare, preservation, biodiversity and environmentalism might interfere with established precedents granting researchers and corporations property and branding rights over organisms within the lab. Eugene Thacker argues in his book The Global Genome: Biotechnology, Politics and Culture that the 'biotech century' is dominated by a co-mingling between science, industry and society, and through the commercial application of genetic technologies we are actually encoding economic logic directly into the biotechnological organism (Thacker, 2005).

Lastly, another contributor to this schism in the perception of biotech species as separate from wildlife and organisms we share our homes and our cities with is our cultural aversion to participating in inflicting discomfort, suffering, and death on other animals. With the industrialization of our food chain we no longer have daily contact with the inevitable demise of all the organisms we consume. This means that we are disconnected from the labor, co-production, and embodied sacrifice of many organisms in the production of our food. Temple Grandin, a celebrated author, activist, and slaughterhouse designer writes:

I often get asked, "How can you care about animals when you design slaughter plants?" Many people today are totally insulated from death, but every living thing eventually dies; this is the cycle of life. Since people are responsible for breeding and raising farm animals, they must also take the responsibility to give the animals living conditions that provide a decent life and a painless death. (Grandin, 2009, p. 300)

Historically, we would all participate in this cycle. It would be our personal responsibility to monitor and make decisions that affected the well-being and suffering of plants and food animals under our care. However, in our post-industrial era, we have no experience with this form of mutual dependency between humans and nonhuman organisms. This sense of interconnectedness is complicated further as laboratory organisms are bred for research purposes that are sometimes invasive and even torturous for the laboratory species. Additionally, some of the outcomes (through both breeding and physical manipulation of biotech species) create organisms that are grotesque and repulsive to a post-industrial population of liberal individuals who see themselves as separate from the unsightly, leaky, smelly, barbarism of nature. It is as if we perceive the discomfort of viewing another's suffering as a form of suffering itself – and so instead of engaging in the co-production of food or biotechnology on a personal level, we have chosen to look away from the consequences of our actions through industrialization.

Donna Haraway writes in her book *When Species Meet*, "People and animals in labs are both subjects and objects to each other in ongoing intra-action" (Haraway, 2011). She argues that even though the power between species in this environment is not equal, both humans and biotech species are engaged in a process of the co-production of data. She argues that minimizing cruelty is not enough, that we must come face-to-face with the organisms we share our labs with in recognition of shared value and shared pain. "We are in the midst of webbed existences, multiple beings in relationship, this animal, this sick child, this village, these herds, these labs, these neighborhoods in a city, these industries and INCUBATOR Lab: Re-Imagining our Biotech Future...

economies, these ecologies linking natures and cultures without end." (Haraway, 2011). I share Haraway's perspective, from my own experiences coming 'face-to-face' with biotech species. In this example from my lab notes, I was participating in PAWS Animal Ethics Training as part of my art/science residency at SymbioticA Art and Science Collaborative Research Laboratory at the University of Western Australia in 2006:

We are taken into a lab where two stacked rabbit cages present themselves beside a handling table covered in green cloth. In the cages are two of the most magnificent rabbits I have ever seen in my life - big, healthy, with thick soft fur, and deep red eyes. Albinos.

He takes the rabbits out of the cages. Placing them in a box with ears exposed for bloodletting (they call it bleeding.) I am terrified we are going to have to give the rabbits injections. I feel a little dizzy, and begin counting in my head. (1.2.3.4.5.4.3.2.1...) He tells us how to kill the rabbits when the work is done, and assures us that when the time comes he will help anyone who is unsure about the process. He is concerned that we will not do it correctly and cause the animal undue suffering. He says that it is the most difficult part of his job, but it is important that it is done properly.

I am taught how to pick us the animal by the scruff of the neck tucking its head in the crook of my arm. It is so soft and beautiful and anxious. He warns that these animals are new, and assigned for PAWS training - so they are a little skittish this time, but will relax with more experience. (Willet, 2009, p. 266-267)

As a young artist my first experience in a scientific laboratory was drawing in a human anatomy lab at the University of Calgary. Since then I have visited and worked in dozens of laboratory environments internationally including: teaching labs, research labs focusing on forensic entomology, plant biology, cellular biology, molecular biology, medical laboratories, animal research facilities, field research stations, and DIY biotechnology labs. From my perspective as a visitor and unruly participant in both laboratory and field based research environments, I see the growing biomass of organisms (plant, mammal, microorganisms) generated and living and dying in laboratory environments as a significant contributor to the interspecies co-production of our planet's ecology. Biotech species (like any other species) physically transform the ecology in which they live. Additionally, biotech species also transform the human domain through affective, cultural, and technological transformations of the ecology we live in. Given the brevity of this paper, I will explore only one example of the complex ecological entanglement that biotech species have with the earth's ecology: biological exchange-- leaving affective encounters, the cultural and technological transformative influences of biotech species, for another text.

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Biological Exchange

It is as if by sequestering a menagerie of biohacked and bioengineered bacteria, cells, viruses, flies, rats, and primates in facilities we call laboratories, they cease to be part of the flora and fauna of the earth's atmosphere. I see the laboratory environment not as a sterile, perfect containment device but as a hot and fragile permeable ecology; teaming with life forms including biotech species, but also humans, pets, and unintentional guests (critters, insects, and the gum that came in on the scientist's shoe). Although lab-based biotech species may be taxonomically and technically distinct from other nonbiotechnological organisms (in that they are designed and bred for research and technical means). They are not physically, metabolically, and sensorially distinct from life forms not generated in the lab. If these biotech species are consuming or producing oxygen, vitamins and proteins, and leaking fluids, excrement, and releasing CO2 into the atmosphere are they not part of our planetary metabolism?

Richard Lewontin states:

Every living organism is in a constant process of changing the world in which it lives by taking up materials and putting out others. Every act of consumption is also an act of production. And every act of production is also an act of consumption. When we consume food, we produce not only gasses but solid waste products that are in turn the materials for consumption of some other organism. (Lewontin, 1991, p. 88)

By extension, each biotech species, regardless of its origin, location, legal status or technological application is also transforming the earth's ecology. International biosafety standards try to reduce the impact of biotech species on environments external to the lab. Biological waste in the form of used media, by-products, carcasses, fluids, etc. are collected and sterilized or even incinerated rather than disposed directly into landfills. Laboratories that house specimens that may become airborne or are intrinsically dangerous to humans collect and filter the air and water in the lab before it expels it into the surrounding environment. But even these actions (if successful) result in the production and consumption of resources based on the biological qualities of the species. For example, mammalian cells grown in the lab are not only producing gasses and liquid waste, but they are (through their interactions with humans) producing vast amounts of plastic waste and consuming vast amounts of energy in their maintenance and disposal. Even if the cells themselves never leave the lab the outside resources that are required to keep them alive, and the wastes produced in their disposal have a significant impact on the external ecology.

INCUBATOR Lab: Re-Imagining our Biotech Future...

It is not just the biotech species (and their biological functions) that can be considered part of the entangled interspecies interrelations that make up the earth's ecology. The laboratory itself, and the researchers, and their actions within the lab can also be interpreted as ecological interactions. We imagine that because we have created the biotech species, and the laboratory environment, and the protocols, that the entire apparatus is 'man-made' and not part of nature. In fact, all 'man-made' things come from natural/biological origins materially.¹ Even more significantly, the action of making, implied by the term 'man-made', can also be read as a natural process – as animal behavior – as an organism interacting with its' environment. Biotech species (and the entire biotech apparatus) can be read as a 'natural' by-product of human species activity.

Propositional Re-Imagining of Biotech Species:

Through my research and art practice I am interested in shifting the perception of biotech organisms and biomedia towards being understood as a growing population within the earth's ecology. The questions that arise from integrating biotech species theoretically and practically into our planetary ecology are far reaching. We must consider the resource implications, bioethical implications, environmental, social, and sustainability implications of this growing population of microbes, crops, farm and research animals, and human subjects. Questions that arise for me include: What will result from the further erosion of our cultural separation between what is human and what is natural? Are we participating in speciesism? What are the necessary changes in human behavior needed to respond to growing environmental concerns? How deeply are colonial tenants engrained in our social, political and economic models? Will we ever be able to overcome the desire to dominate that currently prescribes our social and biological interactions? Is it possible to own life?

In light of the continued proliferation of biotech species and the unfurling implications (biologically, socially, technically, and economically), we are experiencing a radical destabilization of our social, technological, and biological existence. It can be very disheartening – if not terrifying – to engage with this destabilization. Arthur Kroker writes of a technological nihilism, "we are probably already living in a cloner culture in which dreams of xenotransplantation (cloning animals for organ harvesting), biopharmacology (those vast pharmaceutical factories of artificially bred animals for the manufacturing of new drugs), and creating transgenics are the dynamic momentum pushing technology at the spread of bio-business forward. *But are we ethically*

^{1.} All materials (even mass produced industrial materials like plastic) are made of 'natural resources'. Oil and gas, for example, are fossil fuels. "Fossil fuel is a general term for buried combustible geologic deposits of organic materials, formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the earth's crust over hundreds of millions of years" (Science Daily: http://www.sciencedaily.com/articles/f/fossil_fuel.htm).

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prepared for this? Are we suiciding ourselves to virtual life?" (Kroker, 2004) He is not wrong. A fatalist position is a reasonable one given the situation. Surely the biological world as we know it is changing dramatically as a result of so many poorly conceived of human trajectories endangering the earth's biosphere.

However, rather than taking a fatalist position myself, I choose to deploy a critical participatory methodology in the proliferation of biotech species. I am choosing to recognize my already implicated (hypocritical) state as a citizen and consumer in the biotech era; and explore the potentials of critically and creatively participating further in this transformation towards encouraging trajectories of mutualism, sustainability, biodiversity, and environmentalism. This proposed idealistic (and artistic) bio-opportunism is not intended to undermine the very real significance of social, political, and scientific calls to deal with possibly catastrophic bio-political issues facing humanity today. I am not suggesting that optimism is the only response, or even the most viable one. I see a great need for critical thinking, political activism, legislation, and caution in the development of our growing biotech sector. Instead, I see this method working in tandem with these other important methods, towards performing holistic alternative futures - futures that acknowledge our entangled social, technological, biological ecology.

Lastly, I see our current state of instability regarding biotech species as an opportunity to re-open strategies and debates previously thought 'closed' by technological and social 'advancements' in the modern era. The implications of biotech species ask us to reconsider the role of animals in human culture, biological interconnectedness, invasive species – eating, baking, gardening, and shitting. This discussion opens up opportunities to re-consider human activities previously perceived of as low-tech, commercially un-viable, indigenous, or old fashioned: activities like subsistence farming, hunting, composting, slow food, local economies, and biomimicry as significant contributors to designing our shared biotech future.

To this end, I have developed a series of bioart public/participatory events through the INCUBATOR Lab that begin the process of imagining what our shared ecological biotech future could look like. I see my engagement with bioart practices as an experimental methodology. Each project is devised in a way that the outcomes are not assured. Instead, I provide a set of aesthetic, physical, environmental and social circumstances where a variety of participants and factors interacting with one another produce uncharted outcomes. I see these outcomes as propositions, as possible visions of our biotech future. In contemporary art circles this method is often described as 'social practice' (Thompson, Sholette, 2004) or 'relational aesthetics' (Bourriaud, 1998). In the context of bioart the participants are also non-human organisms, bringing anthrozoological considerations into the work.

INCUBATOR Lab: Re-Imagining our Biotech Future...



Image 3. InsideOut: Laboratory Ecologies, Museum Volkukund, The Netherlands. 2008. Photo Credit: Josh Schwebe

I often use frameworks gleaned from non-art and non-scientific human activities to engage artists/scientists and members of the public in a complex biotech species interaction. I often rely on existing human activities in the out-of-doors to create a nonthreatening ecological environment for re-imagining our relationship to biotech species. For example, in 2008 I hosted a bioart picnic called "InsideOut: Laboratory Ecologies" (image 3) in collaboration with the *Art and Genomics Centre* at the *University of Leiden* in The Netherlands. In 2010, I conducted a series of day-hikes called "Cell Break" (image 4) where biotech specimens were taken on an out-of-doors excursion, a day hike in the Canadian Rocky Mountains



Cell Break, Fluxmedia Lab, Concordia University, Montreal, Canada, 2013

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at The Banff Centre or up the side of Mount Royal in Montreal with Fluxmedia Lab at Concordia University.

In 2011, I invited 20 artists, scientists, and students to join me on a camping trip (and residency at The Banff Centre called BioARTCAMP (image 5) at Castle Mountian Hostel in Banff National Park, Canada. There we lived and worked with our biotech species, building a portable bioart lab in a tent in the forest at the foot of Castle Mountain. We conducted individual and collaborative art/ science projects for a week, then opening up the camp to audience members from The Banff Centre, Calgary, the Banff town site, and local campgrounds. We hosted an "Art/Science Fair BBQ" with live music, games for families, a display of all the projects, and free food and beverages. BioARTCAMP served to manifest a unique interspecies interaction, exploring alternative research methods, outcomes and audiences. BioARTCAMP articulated for me that the human social organism is deeply significant, and must also be addressed if we are to successfully lend ourselves to a mutual co-productive relationship with the other organisms we share our labs (and our planet) with.



Image 5. BioARTCAMP: A Rocky Mountain Adventure in Art and Biology, The Banff Centre, Banff, Canada. 2011

More recently, I developed a series of bioart parades. In 2012, the INCUBATOR Lab collaborated with the Arts Council of Windsor and Region, and Canada South Science City and hosted the "Art and Ecology Parade" (image 6) in Windsor, Ontario Canada. The parade took place on a Saturday afternoon during Canada's national salute to the arts called 'Culture Days' and coinciding with the Walkerville Business Association street festival. We commenced at the Arts Council of Windsor and Region, and paraded approximately 50 artists, students, bioart projects, local plants, and dogs from the Windsor County Humane Society through the local street festival, past businesses, parks, and neighborhoods to the front lawn of our local science center where we had a picnic. Featured artists in the

INCUBATOR Lab: Re-Imagining our Biotech Future...

parade included: Amanda White, Patricia Coates, Alana Bartol, Debbie Powell, and Harmony Pillon. We made signs and portable artworks that highlighted all the species we share our local ecology with including: companion animals, microbes, humans, research specimens, food producing plants and invasive species. We called out to unexpecting audiences via a loudspeaker asking them to "Join the parade!" and cheer to calls like "Let's hear it for Bacteria! Yeah! Bacteria!" Artist Patricia Coates performed a tree planting ceremony of a local species on the front lawn of the science centre during lunch. A ridiculous time was had by all. Participants and local residents engaged in a playful performance but also in discussions about the complexity of our local ecology. The "Art and Ecology Parade" served to create a welcoming spectacle that provided audiences and participants with an alternative perspective on biotech species; as part of our ecology, as accessible to a general audience, and as something that can be shared and discussed in many contexts including informal cultural events.



Image 6.Art and Ecology Parade, Arts Council of Windsor and Region, Windsor, Canada 2012.

Photo Credit: Victoria Symons.

In 2013 INCUBATOR Lab co-produced a second parade called "ECO NUIT PARADE" (image 7) in collaboration with the Ontario Science Centre. I worked closely with And Klasnja to create an all-night bioart parade event for the Scotiabank Nuit Blanche in Toronto, Canada. Featured artists included musicians from *Rhythmic by Nature*, Roberta Buiani and Lisa Carrie Goldberg, Amy Rae, Harmony Pillon, Arturo Herrera, and Amy Schwartz. Also parading were approx. 50 students from the University of Windsor, and staff and volunteers from the Ontario Science Centre. We proposed the parade as a 'Night Cavalcade' utilizing illumination – digital media – and phosphorescence – to reimagine the downtown Toronto ecology as a menagerie of imagined, living, and semi-living organisms. This parade also included several portable artworks and signage illustrating a variety of organisms, GMO fluorescent fish from the science centre, wagons filled with DNA

extractions and bacteria from INCUBATOR Lab, and Toronto Therapy Dogs. Additionally, we prepared 200 take home DNA extraction kits (including a live pickling onion in each one) that served as giveaways for the general public.

With the ECO NUIT PARADE we set up a tent city on the front Lawn of CAMH (Centre for Addiction and Mental Health) on Queen street West in Toronto. The installation included a science learning station for families, a display of bioart projects between marches, and a participatory drumming circle, all lit with dangling lights, camping lanterns, and glow sticks. The experience we created for viewers and participants was evocative of a beatnik arts festival; reminiscent of events I have attended on artist squats in The Netherlands. The drumming circle served as our heartbeat connecting participants in a shared physiological response to the rhythm, and calling prospective audiences from blocks away to 'Join the Parade!' A number of impromptu collaborations occurred; an Eastern European singing group joined us for a period of time, other artists and performers, and viewers of all ages drummed, danced, marched, and completed mini workshops. Three times throughout the night students, artists, scientists and musicians congregated in front of the tent city. We then marched through the streets and parks to the tune of a call and response song devised by contributor Laura Service. "You can't ride in my little red wagon! It's filled with bacteria and DNA extractions! Gobies, puppies, and homo sapiens! Second verse! Same as the first! But a little bit louder! And a little bit worse." The result was a transformative and delightful experience for all involved, trailing off into the long night where rainstorms and exhaustion tested the limits of our biology and spirit, leading to a hasty closure of the festivities at 3:00 am.

INCUBATOR Lab art/science events engage in experimental research/creation methods towards producing alternative visions of



Image 7. Art and Ecology Parade, Arts Council of Windsor and Region, Windsor, Canada. 2012 Photo Credit: Victoria Symons

INCUBATOR Lab: Re-Imagining our Biotech Future...

our shared biotech future. The research/creation cycle that enables this process is almost always a variation of the following steps; (1) go somewhere you do not belong (in my case; a commercial lab, a municipal facility, a private farm); (2) connect with people (or not) (3) Learn new techniques, methodologies, outcomes and goals from the people/environment; (4) conduct theoretical research/analysis of experiential knowledge; (5) creatively re-deploy the learned experiential, technical, theoretical knowledge in your studio/lab environment; (6) invite collaborators to join you; (7) design an event based on experimental models where the outcome is not assured; (8) host and document the event; (9) analyze the events' methods and outcomes through aesthetic, theoretical, political frameworks towards generating the next round of events, texts, objects, and artworks; (10) present your research/creation results online and in public; (11) do the steps all over again, this time in a different order.

For more information on these projects and others please visit my websites:

<www.incubatorartlab.com>;<www.jenniferwillet.com>

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Artnodes, no. 20 (2017) | ISSN 1695-5951

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INCUBATOR Lab: Re-Imagining our Biotech Future...

Recommended citation

WILLET, Jennifer (2017). «INCUBATOR Art Lab: Re-Imagining Our Biotech Future Through Art / Science Research». In: Irma VILÀ and Pau ALSINA (coords.). «Art and Research». *Artnodes.* No. 20, pp. 76-84. UOC [Accesssed: dd/mm/yy] <http://dx.doi.org/10.7238/a.v0i20.3140>



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CV



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Dr. Jennifer Willet, Associate Professor in the School of Creative Arts, University of Windsor (Canada) is an internationally successful artist in the emerging field of bioart. In 2009 she opened a bioart research and teaching lab INCUBATOR: Hybrid Laboratory at the Intersection of Art, Science, and Ecology at the UofW.

