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# BioARTCAMP: Trekking the Lab into the Field

Jennifer Willet

## Abstract

In July 2011, twenty artists, scientists and students, engaged in a social / artistic / biological experiment in which a diverse set of individuals came together to live and work at a bioart field research station in the Canadian Rocky Mountains. BioARTCAMP was a collaborative art/science project designed by Jennifer Willet and co-produced by INCUBATOR Lab and The Banff Centre. Participants worked to build a portable biotech art laboratory in the forest and conduct a variety of art/science projects. BioARTCAMP served to provide another vision of the biotech future – an embodied and responsible vision (a humorous and self-critical vision) – an ecological vision of our relations and responsibilities to the other life forms we share our planet and our laboratories with.

In this paper, Willet charts the practical and theoretical underpinnings of the BioARTCAMP project with emphasis on engaging in artistic and lab based biotechnological methodologies into a ‘field research’ environment, towards engaging ecological metaphors for performing and describing biotechnology. Willet will also take this opportunity to address the inevitable complications of her own presuppositions about BioARTCAMP – the productive uncertainty of working with experimental methodologies – and the unruly outcomes that come with bringing artists, and

scientists, and specimens, and lab equipment together under a big tent in Banff National Park!

### **BioARTCAMP Background:**

BioARTCAMP is a hybrid project, an artwork, a durational performance, a residency, a group exhibition, an installation, a conference, and a field research trip. It is best imagined as an unusual camping trip where a group of artists, scientists, filmmakers, theorists, and students lived and worked together in the wilderness to build a functional bioart laboratory and complete a series of experiments and artworks in the Canadian Rocky Mountains.

The BioARTCAMP project stems from years of working in biological science laboratories towards artistic ends.<sup>[1]</sup> While making art in laboratory settings it became clear to me that the language and images commonly affiliated with biotechnological research rely heavily on digital metaphors and molecular biology as defining features.<sup>[2]</sup> Before I ever set foot in a biotechnological laboratory, I imagined it would be cool – clean – crisp – and sterile – driven by banks of supercomputers. In actuality, my experience of biotech and medical laboratories has led me to re-imagine the lab as a complex ecology that includes multiple orders of life; microorganisms, cell lines, nutrient broths, research specimens (whole and partial), animal by-products, human samples, scientists, administrators, artists, pets, pests, lunches, and unwanted chewing gum. The laboratory is simultaneously teeming with life and permeated with the sounds and smells and wastes that have been produced by a complex series of interspecies interactions.



Figure 1. Documentation from BioARTCAMP: A Rocky Mountain Adventure in Art and Biology, The Banff Centre, Banff , Canada, Jennifer Willet, July 2011. Photo Credit: Meghan Krauss

If we shift our conception of the laboratory away from the current model of the sterile and encapsulated technological workspace, and towards a model where the laboratory is (biologically and culturally) an extension of our terrestrial, aquatic and social ecologies, we can then choose to apply notions of stewardship and sustainability to the exponentially growing biomass of organisms and parts of organisms living in laboratory environments today. Possibly, we can rely on existing models provided by field based scientific research for reinterpreting and reimagining the organisms and protocols that are exclusive to laboratory environments – as they exist within a much larger human and wilderness ecology. BioARTCAMP serves to provide audiences with another vision of the biotech future, an embodied and responsible vision (a humorous and self-critical vision) – *a cultural and ecological vision of our interrelations and responsibilities to the other life forms we share our planet and laboratories with.* To accomplish a radical

repositioning of the images we see of laboratory research, I imagined building a portable lab in the Canadian Rocky Mountains, specifically *Banff National Park*.<sup>[3]</sup> BioARTCAMP is situated at a complex nexus of motifs and histories of back country exploration, mountain ecologies, sustainability, stewardship, environmentalism, hunting, camping, boy scouts, tourism, colonial domination, indigenous land claims, and the Canadian cultural imagination. The park is a saturated conceptual landscape for imagining the complex biopolitics of contemporary biotechnological ‘exploration’ of microscopic and molecular ecologies in the lab. This model allows for us to examine the historical successes and failures of the institutionalization of life and consider (and re-consider) our current research trajectories in the biological sciences from alternative perspectives tempered by contemporary discourses surrounding post-colonialism, sustainability, bioart and social practice.



Figure 2. Documentation from BioARTCAMP: A Rocky Mountain Adventure in Art and Biology, The Banff Centre, Banff , Canada, Jennifer Willet, July 2011

This physical transportation of studio/lab into an outdoor ecological environment certainly challenges public perceptions of biotechnology, the arts, and the Canadian landscape in a variety of ways, but BioARTCAMP also challenges traditional dichotomies in the 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 set of data is generated by the experiment, and the other set of data is generated by a control group, used for comparison. 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 is sometimes considered insufficient because it assumes that organisms can exist within isolation.<sup>[4]</sup> In the ecological sciences, researchers gather data from organisms within their natural environments based on the principle that every organism interacts with other organisms and their environment. With this method, it is impossible to guarantee that two data sets have been exposed to exactly the same conditions – opening results to wild amounts of contingency.<sup>[5]</sup> Some researchers acknowledge that, even though data collected in the field is less controlled, it is more accurate in the sense that all environmental influences (even those unknown to the researcher) are directly influencing the experimental results. BioARTCAMP serves to re-connect these methodologies through visual metaphors and performative practices revealing the dichotomy as a false one, exposing participants and viewers to the reality that no biotech laboratory really exists within an environmental vacuum, no data exists without some contingency, and no organism or environment is truly ‘natural.’<sup>[6]</sup>

### **BioARTCAMP Project Description:**

BioARTCAMP was a co-production between *INCUBATOR Lab*<sup>[7]</sup> at *The University of Windsor*, and *The Banff Centre Film and Media Department*.<sup>[8]</sup> *The Banff Centre* hosted our group (and some of their family members) within the framework of their existing residency programs from July 19 – Aug. 01, 2011. *The centre also provided us access to their facilities including: office*

*and studio space, television studios, outdoor campus, conference rooms, hotel accommodations, and dining hall, as well as personnel/technical support in administration, photography, audio visual, printing, and shipping and receiving. The Banff Centre also hosted a BioARTCAMP conference for general audiences July 30-31, 2011.*



Figure 3. Video Stills (from top left: Angus Leech, Britt Wray, Bulent Mutus, David Dowhaniuk, Jeanette Groenendaal, Jamie Ferguson, Iain Baxter& and Louise Chance Baxter&, Grant Yocom, Kacie Auffret, Jennifer Willet, Kurt Illerbrun, Marie Pier Boucher, Marta De Menezes, Paul Vanouse, Zoot Derks, Tagny Duff) BioARTCAMP: A Rocky Mountain Adventure in Art and Biology Video, Jeanette Groenendaal, Zoot Derks, and Jennifer Willet, July 2011

From July 22nd to July 28th, we lived at an off-campus location; *Hi International Castle Mountain Hostel*.<sup>[9]</sup> *Hostelling International* provided their entire Castle

Mountain facilities (cabin and grounds) for the exclusive use of BioARTCAMP group. Here, we were able to live communally (with one another and our research specimens) and conduct a variety of art/science projects at the intersection of laboratory and field based research methodologies. We hosted an Art/Science Fair Open House BBQ event at the hostel on July 27th, 2011.

**BioARTCAMP Participants included:**

Senior Artists and Scientists: **Iain Baxter** (CAN), **Angus Leech** (CAN), **Tagny Duff** (CAN), **Paul Vanouse** (USA), **Marta De Menezes** (POR), **Marie Pier Boucher** (CAN), **Kurt Illerbrun** (CAN), **Bulent Mutus** (CAN), **Jeanette Groenendaal** (NL), **Zoot Derks** (NL), and myself, **Jennifer Willet**(CAN).

Students Participants Included: **Kacie Auffret** (CAN, *University of Windsor*), **David Dowhaniuk**(CAN, *OCAD University*), **Jamie Ferguson** (CAN, *Bauhaus University*), **Britt Wray** (CAN, *OCAD University*).

Other Participants Included: **Louise Chance Baxter**& (CAN), **Joan Linder** (USA), **Dylan Leech**(CAN), **Melentie Pandilovski** (CAN, MK), **Tokio Webster** (CAN, Project Manager), **Grant Yocom**(CAN).

For a one-week period, we lived and worked together at *Castle Mountain Hostel*. We prepared food and ate as a community; we slept in bunk bed dorms, sang around the fire, and together built a portable outdoor city of tent laboratories. We wore matching orange vests. We cultivated life in the laboratory setting, observed and collected life in the outdoor ecology, made aesthetic and intellectual arguments and cared for

specimens, pets, children, and one another all at the same time. We became a team, a family, a pack – we howled at the moon and at each other. We struggled with illness and injury, arguments, exhaustion, togetherness, setbacks, body odours, hurt feelings, group dynamics, and power shortages. We loved, we played, we filmed, we performed, we danced – and watched ourselves nightly on the computer screen. We were incredibly productive: working, reading, feeding, building, collecting, and singing day and night. We took field trips and day hikes and we hosted a public BBQ. We had little-to-no internet, telephone or cellular service.

Each senior artist and scientist prepared a research project to conduct while at the camp.

- **Iain Baxter** (Professor Emeritus, *Visual Arts, University of Windsor*) collaborated with Louise Chance Baxter on a series of photo shoots called ‘Wildness & Wilderness.’ They worked together to re-imagine human/cultural/erotic relations with the forest through a series of photographic vignettes and character performances. They also brought a life-sized wooden artist mannequin to the camp and through performance and photography reunited the mannequin with his ancestors, the wood and trees in the forest.
- **Angus Leech** (Independent Artist) developed a live music performance / storytelling project exploring the notion that science and myth are parallel and complimentary modes of ecological and cultural understanding; that mythology is an alternate form of science, and science a form of mythology.<sup>[10]</sup> His project, ‘The Crake Brothers: Songs of Love, Murder and Biotechnology’ resulted in a

series biopunk/western songs written at the camp, and a collaborative performance with his brother Dylan Leech (accompanied by Louise Chance Baxter) at the BBQ event.

- **Tagny Duff** (Associate Professor, *Communication Studies, Concordia University*) began research on her ‘Human Incubators for Feeding Microbes’ project towards designing biodegradable incubator prototypes. She worked to sample the local microbial fauna in order to see what construction materials they would efficiently consume. Additionally, Duff and de Menezes developed a project on site to generate potato dextrose agar plates for feeding yeast and fungi samples from potato peels collected from the kitchen.
- **Paul Vanouse** (Professor, *Art, University at Buffalo*) completed a significant retooling of the Molecular Biology process PCR (Polymerase Chain Reaction) utilizing only the most basic materials. ‘Deep Woods PCR’ was a performance and a proof of concept where Vanouse collected DNA from his own saliva and successfully amplified the sample through a thermo cycling process that consisted of transferring test tubes sequentially through three pots of water over the campfire.<sup>[11]</sup> The performance included 120 manual rotations through three pots of water at 55, 60, and 95 degrees during the evening campfire and sing-along.
- **Marta De Menezes** (Artistic Director, *Ectopia, The Instituto Gulbenkian de Ciência*) continued ongoing research towards a collaborative project with Maria Manuela Lopes called ‘Tetrahymena.’ Tetrahymena thermophilia is a fresh water microorganism that has seven genders. De Menezes invited artists and audiences

to view laboratory grade specimens to discuss the different gender morphologies. She placed emphasis on the social and cultural implications of engaging with this organism.

- **Marie Pier Boucher** (Ph.D. Candidate, *Art, Art History and Visual Studies at Duke University*) conducted interviews with the camp participants towards a theoretical analysis called ‘Biotopological Reconfigurations’ that explored the shift in our perceived attachments to life through the transformation of the laboratory from a closed architectural space, to an open indeterminate camp/laboratory site.<sup>[12]</sup>
- Kurt Illerbrun (Ph.D Candidate, *Ecology, University of Alberta*) served an important role as a local ecology consultant to other researchers, and continued ongoing research on alpine butterfly ecology. Given the cool weather he observed the organisms in their caterpillar state towards better understanding host-plant preference. Additionally, he devised and built a functional ‘caterpillar mill’ device, utilizing found materials from the camp.
- **Dr. Bulent Mutus** (Professor and Head, *Department of Chemistry & Biochemistry, University of Windsor*) devised a protocol for making silver nitrate infused paper that can be utilized to detect Hydrogen Sulfide. He also developed a presentation titled, ‘Simple Methods for Detecting and Quantifying Sour Gas (Hydrogen Sulfide) in the Environment.’ He invited participants to utilize a small Hydrogen Sulfide gas dispenser to make drawings on the silver nitrate infused paper.

- **Jeanette Groenendaal** and **Zoot Derks** (Directors, *G-Netwerk*) worked in collaboration with Willet towards the production of a BioARTCAMP video short<sup>[13]</sup> and three-channel video installation. They conducted interviews of all participants before and after the camp, as well as on-site interviews and documentation of protocols, performances, and the camp experience – through a unique performative and participatory videography methodology. Additionally, they provided camp participants the opportunity to see themselves and other ongoing projects with casual evening screenings of the daily footage at the main lodge.
- And myself, **Dr. Jennifer Willet** (Associate Professor, *School of Creative Arts, The University of Windsor*) developed a project called ‘Natural Science’<sup>[14]</sup> where I assumed the role of a natural scientist observing and collecting specimens from BioARTCAMP. This project works to explore new biotech/ecological taxonomic systems that incorporate laboratory, human, and cultural collections into the same categorical systems as specimens collected from the natural ecology.



Figure 4. Documentation from BioARTCAMP: A Rocky Mountain Adventure in Art and Biology, The Banff Centre, Banff , Canada, Jennifer Willet, July 2011

We selected four students from across Canada to participate as Student Apprentices. Kacie Auffret a BFA student at the *University of Windsor* who makes artworks that incorporate traditional hunting and taxidermy practices into a contemporary printmaking and photography art practice. David Dowhaniuk joined a masters program at *The University of Bremen* in Germany just after BioARTCAMP. He is a digital media specialist. Jamie Ferguson is an artist and designer who engages with field-based scientific research methods from an artistic perspective. She just completed her MFA at *Bauhaus University* in Weimar, Germany. Britt Wray is a graduate of *OCAD University* in Toronto. Following BioARTCAMP, she completed a post-graduate

research position at *Goldsmiths, University of London*. She has an interdisciplinary background in science, media and the arts, and is an emerging bioartist, researcher, and podcast producer. The student participants served an integral role in the BioARTCAMP project assisting with the smooth maintenance of the camp, food preparation and cleanup. Most importantly, they assisted the senior artists and scientists with their projects, while learning through apprenticeship. Quickly, the students became more than just assistants; they contributed significantly to ongoing projects, but also devised their own individual research trajectories within the camp and made significant arguments for their own working methods in group discussions. BioARTCAMP was a unique opportunity for these talented emerging artists and researchers to build professional collaborative relationships in the bioart milieu.

While at the camp, we hosted a number of invited guests, children, community members, curators and critters – all of whom contributed to the unique ecology of the camp. *The Banff Centre* visiting artists and staff, *Parks Canada* employees, *Hostelling International* staff, *University of Windsor* students and local campers visited the camp at various times. Tony Chatham, the site manager for *Castle Mountain Hostel*, played a significant role maintaining site rules, and assisting with any site queries. He was also a regular participant in campfire activities and meals and a source of important, local ecological information. Joan Linder (Associate Professor, *Art, University at Buffalo*) and Paul Vanouse stayed at a local cottage with their two children, Rafi and newborn Lucien for a portion of the camp. The Linder/Vanouse family contributed greatly to the community, providing ample opportunity for great conversation, play – and careful care *for* and *by* children. Louise Chance Baxter (A.K.A. “Momma Louise”) came to the

camp to collaborate with Iain, but soon took on the role of den mother, transforming breakfasts from a continental buffet to a hot porridge delight. She contributed an important verve to social events and consoled participants through the ups-and-downs of BioARTCAMP life. Tokio Webster (AKA “the Ghost” – she is almost never seen in BioARTCAMP documentation) served as our extraordinary project manager, taskmaster, and operations specialist. Several students from *The University of Windsor* visited the camp: Meghan Krauss an MFA student came with a group of friends to assist with panoramic photo documentation, and several members of *Broken City Lab*<sup>[15]</sup> came up from Calgary where they were artists-in-residence. Bulent Mutus’ son Josh, his wife Liz and their beautiful golden lab Stucky visited for an afternoon. Even my family visited; Warren, Teala, Robin, Wayne, Sarah, and Jim, with children in tow. BioARTCAMP was not only an art/science project or a residency program it was a familial and creative nexus: it was a community, a family, a social ecology.

### **BioARTCAMP Concluding Thoughts:**

BioARTCAMP utilized multiple strategies in the reimagining of complex interspecies relationships within the laboratory ecology. BioARTCAMP involved a considered representational strategy, the tent/laboratory as art installation, a complex curatorial project, performative and narrative intentionalities, and several methods of documentation. We deeply considered the needs of the specimens, the campers, *The Banff Centre*, and *Parks Canada*.



Figure 5. Documentation from BioARTCAMP: A Rocky Mountain Adventure in Art and Biology, The Banff Centre, Banff , Canada, Jennifer Willet, July 2011

By hosting a number of people from different backgrounds in a unique scenario, BioARTCAMP worked to explore new research methods and new approaches to research. From my own experience at BioARTCAMP, I learned about the significant role of the human community in the constitution of a laboratory ecology. It became clear to me that an endeavour such as this was not only about ‘care for the organism’ or ‘care for the ecology’ but also about ‘care for the community’ and ‘care for the self.’ How can we care in an ethical manner for the organisms in the lab, if we do not afford that same care towards ourselves or the other researchers we share our labs with? How can a system of bioethics ruled by protocols and bureaucracies really amount to a system of actual interspecies care across life forms in the lab? And, in regard to my own art/science

practice, how can I devise a series of artworks and events that will attempt to begin to bridge the gap between institutionalized bioethics and meaningful reciprocal attempts at care?



Figure 6. Video Still from BioARTCAMP: A Rocky Mountain Adventure in Art and Biology Video, Jeanette Groenendaal, Zoot Derks, and Jennifer Willet, July 2011

### **BioARTCAMP Links:**

- BioARTCAMP Project Website:

**<http://incubatorartlab.com/home/projects/bioartcamp/>**

- BioARTCAMP: A Rocky Mountain Adventure in Art and Biology  
A Short Video document co-produced by G-Netwerk & INCUBATOR

Jeanette Groenendaal, Zoot Derks and Jennifer Willet

**<http://www.incubatorartlab.com/home/projects/bioartcamp-video/>**

### Acknowledgements:

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**Dr. Jennifer Willet** is an internationally successful artist in the emerging field of BioArt. Her work resides at the intersection of art and science, and explores notions of representation, the body, ecologies, and interspecies interrelations in the biotechnological field. From 2000-2007 Willet and Shawn Bailey collaborated on an innovative computational, biological, artistic, project called BIOTEKNICA. At the same

time, she taught in the Studio Arts Department at *Concordia University*, and completed her PhD in the *Interdisciplinary Humanities Program* at the same institution. Willet also taught “BioArt: Contemporary Art and the Life Sciences” for *The Art and Genomics Centre* at *The University of Leiden* in 2008, and now works as an Associate Professor in the *School of Arts and Creative Innovation*, at *The University of Windsor*. In 2009 she opened the first biological art lab in Canada, called INCUBATOR: *Hybrid Laboratory at the Intersection of Art, Science, and Ecology* at the UofW. In July 2011 she completed BioARTCAMP, a project that involved hosting 20 artists, scientists and students at The Banff Centre, where they built a portable bioart laboratory and conducted experiments in the Canadian Rocky Mountains.

## Endnotes

1. As co-creator of the BIOTEKNICA artist collective I worked at *SymbioticA* at *The University of Western Australia* (2004, 2006) and solo at *The Art and Genomics Centre* at *The University of Leiden* (2008), the *Faculty of Medicine, University of Calgary* (2008), and in collaboration with Kira O'Reilly in the *School of Biosciences* at the *University of Birmingham*(2010.) I now have my own lab *INCUBATOR: Hybrid Laboratory at the Intersection of Art, Science, and Ecology*, at the *University of Windsor, Canada*. <sup>^</sup>
2. Willet, Jennifer. *(RE)Embodying Biotechnology: Towards the Democratization of Biotechnology Through Embodied Art Practices*. A Dissertation towards the completion of the Interdisciplinary Humanities PhD Program at Concordia University, Canada 2009. P. 123.<sup>^</sup>
3. Parks Canada, Banff National Park website. Date of Last Access: January 15, 2015, from <http://www.pc.gc.ca/pn-np/ab/banff/index.aspx> <sup>^</sup>
4. Latour, Bruno and Steve Woolgar. *Laboratory Life: the construction of scientific facts*. (second edition, enlarged) Princeton: Princeton University Press, 1986, p. 27. <sup>^</sup>
5. Lawton, John. H., "Are there General Laws in Ecology?" in *Oikos*, Vol. 84. No. 2, Nordic Society Oikos, Blackwell Publishing, 1999, p.177. <sup>^</sup>

6. Willet, Jennifer, INCUBATOR Art Lab: Re-imagining biotech species as co-producing our shared ecology in *Transformations Journal of Media and Culture*. In press, 2015 <sup>^</sup>
7. Willet, Jennifer. INCUBATOR: Hybrid Laboratory at the Intersection of Art, Science, and Ecology website. Date of Last Access: January 15, 2015, from <http://www.incubatorartlab.com/> <sup>^</sup>
8. *The Banff Centre, Film and Media website*. Date of Last Access: October 28, 2012, from <http://www.banffcentre.ca/film-media/> <sup>^</sup>
9. Hostelling International, Castle Mountain Hostel website. Date of Last Access: October 28, 2012, from <http://www.hihostels.ca/westerncanada/356/hicastle-mountain-wilderness-hostel.hostel> <sup>^</sup>
10. Leech, A. *BioARTCAMP Artist Statement, July 2011*. <sup>^</sup>
11. Vanouse, Paul. *Deep Woods PCR website*. Date of Last Access: January 15, 2015, from <http://www.paulvanouse.com/dwpcr.html> <sup>^</sup>
12. Boucher, M. "A response to Life's Emergencies: BioARTCAMP as Technique of attachment to life." from *ISEA International Symposium on Electronic Arts proceedings, September 2011*. Date of Last Access: October 28, 2012, from <http://isea2011.sabanciuniv.edu/paper/response-lifes-emergencies-bioartcamp-technique-attachment-life> <sup>^</sup>
13. Groenendaal, J., Derks, Z., and Willet, J., *BioARTCAMP: A Rocky Mountain Adventure in Art and Biology video short, February 2012*. Date of Last Access: January 15, 2015, from <http://www.jenniferwillet.com/home/projects/bioartcamp-video/> <sup>^</sup>

14. *<http://jenniferwillet.com/home/projects/natural-science/> ^*
15. *Broken City Lab artist collective (from Windsor, Ontario) website, Date of Last Access: January, 15, 2015, from <http://www.brokencitylab.org/> ^*