

Allegories of the Genome

Group exhibition featuring

Trish Adams
Reg Brooks
Juliet Davis
Bill Fisher
Philip Galanter
Gabriel Harp
Sarah Hauser
Sonja Hebert
Ellen Jantzen
Holly Longstaff
Rachel Mayeri
Leslie Sobel
Debra Swack
Elaine Whittaker

Allegories of the Genome



Allegories of the Genome
exploring genetic and genomic science
www.genomic-art.com

Sponsored by Genome
British Columbia



ELAINE WHITTAKER “CLONEOLOGY”

In “Cloneology”, a series of small wax paintings contain photographic images of *C. elegans* that Whittaker shot through a camera mounted on a high powered laboratory microscope. They are juxtaposed with wax-filled petri dishes depicting the natural stages of cell division, known as mitosis. Above a metal shelf is located a larger wax painting containing a photographic image of a set of *C. elegans* eggs shot through the same microscope. This set of eggs has been “cloned”, not through human intervention in a biological context, but through artistic manipulation using computer technology. On the shelf rest piles of petri dishes, containing scanned images of the CEOs of Canada’s top forty biotechnology companies. These images, also encapsulated in wax, are undergoing their own transformation, as colonies of cells form over the surface via artistic experimentation.

Whittaker’s work has been featured in solo and group shows all over the world from the Yukon to Italy. She was also recently awarded an Ontario Arts Council project grant. If you would like to know more about this artist, just pick up the latest issue of MIX. Magazine, Issue 32:2.



DEBRA SWACK "MY PERFECT CHILD"

"My Perfect Child" explores the history of engineering the perfect child through genetics, cloning, reproductive technology, and selective abortion and its origins in literature, psychology, anthropology, and child-rearing manuals. The work contains paraphrased quotes from "Designing Babies" by reproductive expert Roger Gosden. Swack argues that there are real concerns that improving the quality of our young could be dangerously close to Eugenics. The author of "Designing Babies" acknowledges this but argues that little room for abuse exists if these decisions lie within the realm of individual couples. The problem, as explained by Swack, is that when Reproductive Technology becomes more readily available there will be pressure to use it and those that do not (or who do not use it in the same way) may be discriminated against or perish. Additionally, it may be very expensive, so class divisions could develop between those who can afford to do it and those who cannot. Then the ones who cannot could be discriminated against, perish, or be eliminated. Cloning could destroy the meaning of family as we know it. Who will be the parent, child. What role will the clone/child play and what rights does the clone have?

Swack is a consultant for the SUNY@Buffalo Research Foundation where she does software testing, technical writing, and software user training.



*WE CANNOT AGREE WHAT VALUE
TO SET ON THE LIFE OF A CHILD,
EVEN A SERIOUSLY DEFECTIVE ONE*



*THERE ARE MANY DANGERS IN TRYING TO REPAIR OR
INTRODUCE EXTRA GENES; A MISTAKE IN A GERM CELL
CAN BE INHERITED AND BLIGHT FUTURE GENERATIONS*

TABLE OF CONTENTS

Title page	1
Table of contents	3
Project overview	4
Words from our sponsor	5
The artists	
Trish Adams	6
Reg Brooks	7
Juliet Davis	8
Bill Fisher	9
Philip Galanter	10
Gabriel Harp	11
Sarah Hauser	12
Sonja Hebert	13
Ellen Jantzen	14
Holly Longstaff	15
Rachel Mayeri	16
Leslie Sobel	17
Debra Swack	18
Elaine Whittaker	19

ALLEGORIES OF THE GENOME

EXPLORING GENETIC AND GENOMIC SCIENCE

Artists are often among the very first to critically examine novel trends and scrutinize social issues related to emerging technologies. It is no surprise then that the impact of genomics on society has emerged as a theme across all forms of the arts in recent years. We value the arts' exploration of genomics because it provides our society with a critical, and often provocative, examination of the taken for granted assumptions that underpin novel technologies. The questions that artists explore through their work escape scientific paradigms to address socially relevant issues that concern other scientific outsiders such as the lay public. Some artists working in this field explore general themes such as the societal impact of specific genomic technologies like cloning or the consequences of science out of control. Others work with novel technologies to make new forms of art or artistic processes inspired by scientific advancements.

This catalogue presents work included in the "Allegories of the Genome" online gallery and is sponsored by Genome British Columbia. The gallery expands beyond a February, 2007 exhibition that took place at outworks Gallery in Winnipeg, Manitoba Canada. While the Winnipeg show presented the work of ten artists, the online gallery includes the work of fourteen international artists.

The purpose of the Allegories project is to spark public dialogue and debate about genetic and genomic science. The initial call was put out to artists working in any medium and as a result, the shows feature original music derived from the molecular frequencies of DNA, sculptures of hybrid animals, prints that contain the combined genetic material of hundreds of international participants, and much more.

The shows were curated by Holly Longstaff and Jordan Miller who would like to thank all the gracious artists who contributed work to the Allegories project. They would especially like to thank Sonja Hebert for her assistance with this catalogue.



LESLIE SOBEL

"METASTASIS"-TOP AND "DEBUG_CREATION"-BOTTOM

Sobel explains that these pieces are about the analysis of biological data in the context of finding better matches for chemotherapy drugs through evolutionary computing processes. The use of biotechnology has great potential to provide better treatments for devastating diseases. Analyzing and working with our genome has the potential to make us godlike in our control of our own biology but it is also a highly risky endeavor. In particular, Sobel is compelled to wonder if we are controlling our environment or wandering down a chaotic and unpredictable path as we manipulate the biological world. We live in an ever more virtual, engineered place until physical reality rubs our noses in the messy inconvenient marvelous real world.



This work incorporates photomicrographs shot through Leslie's collection of antique and toy microscopes, genetic programming code, and other biomedical imagery all manipulated within Photoshop. Some are mixed media pieces incorporating encaustic and collage, others are archival inkjet prints.



RACHEL MAYERI

"STORIES FROM THE GENOME"

Mayeri describes "Stories from the Genome" as part cloning experiment, part documentary, following an unnamed CEO-geneticist whose company sequenced the Human Genome in 2003 - a genome that secretly was his own. Not satisfied with this feat, the scientist self-replicates, producing a colony of clone-scientists to save himself from Alzheimer's. The animated video switches between misadventures in cloning, and a history of equally improbable theories of human development. Mayeri explains that "Stories from the Genome" is based on the true life story of Craig Venter, who was the CEO of Celera Genomics in a race with an international consortium of scientists to decode the human genome. He did in fact use his own genetic material for the Human Genome Project, completed in 2001.



Mayeri is an Assistant Professor of Media Studies Department of Humanities and Social Sciences at Harvey Mudd College in Claremont, California.

ALLEGORIES OF THE GENOME

A FEW WORDS FROM GENOME BRITISH COLUMBIA

As a robust science research organization, Genome British Columbia is also committed to fostering dialogues about the impacts of science on society and vice-versa using a variety of communications vehicles. Since its inception in 2000, Genome British Columbia has carried out a number of outreach initiatives including public fora, workshops for high school science teachers and their students, traveling exhibits, a comprehensive genomics education website and support for the production of plays which challenge viewers' conceptions about genetics and genomics.

We are pleased to add our support to this unique collaboration between visual artists and scientists and look forward to the continuing expansion of the online gallery as a means of expanding the engagement between scientists and those who may be affected by their discoveries now and in the future.



TRISH ADAMS “DOLLY”

Adams has been involved in collaborative research at the Department of Anatomy, School of Biomedical Sciences, The University of Queensland for nearly six years. Her focus was to place herself in the centre of the research as a “human guinea-pig”, particularly in relation to the developing technologies of adult stem-cell research. The interactive installation “machina carnis” was her final doctoral assessment work in this research. It involved using digital videomicrograph image data of stem cells from her blood that were changed into beating cardiac cells in culture.

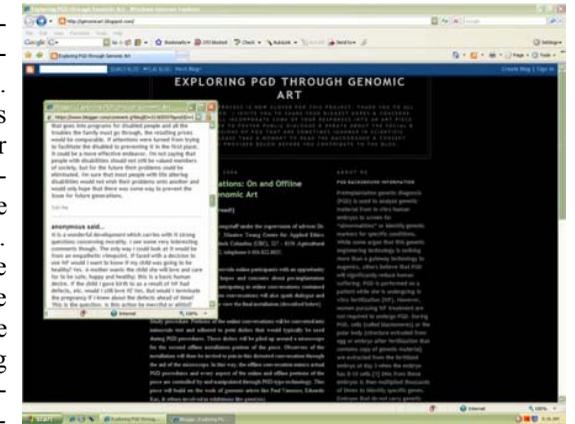
“dolly” is a digital videomicrograph time-lapse image data of her fibroblast cells combined with 3D animation. Adams was referencing the cloning of dolly the sheep and the notion of reproducing females on a factory assembly line.



HOLLY LONGSTAFF “DISTORTED CONVERSATIONS: ON AND OFFLINE EXPLORATIONS OF GENOMIC ART”

In “Distorted Conversations”, Longstaff is interested in exploring methods of reducing facilitator - artist privilege through online discourse. The purpose of this piece is to provide visitors with an opportunity to anonymously share their hopes and concerns about pre-implantation genetic diagnosis (PGD) by participating in online conversations contained on a blog website. These conversations are then used in an offline installation to spark dialogue and debate amongst observers. This project pushes the metaphor of ethical determinism while exposing key concepts such as normalization, genetic determinism, and individual autonomy. Conversations ultimately mimic the actual processes of PGD and every aspect of both the online and offline portions of the piece are controlled by and manipulated through PGD- type technology. Some of the themes explored by participants to date include cost/benefit analyses; assumptions concerning people with disabilities; and ethics and faith.

Longstaff is the creator of and one of the curators for the “Allegories of the Genome” project. Her work has been included in shows in both the United States and Canada. She currently resides in Vancouver, B.C.



ELLEN JANTZEN "CYCLAM CALCIS" -TOP AND "ARUM DIGITI" -BOTTOM
FROM THE "ARTIFICIAL EVOLUTION" SERIES

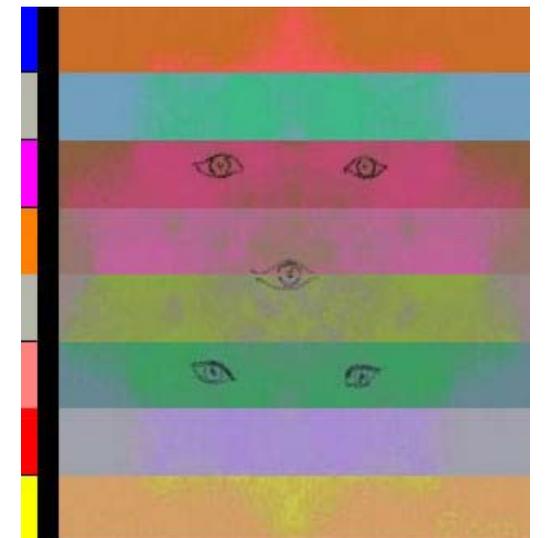
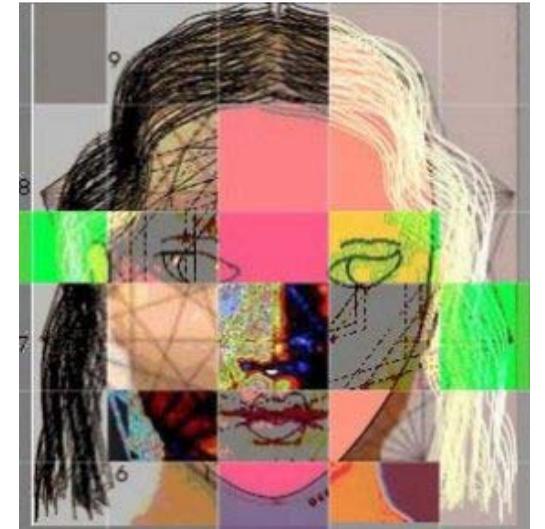
"Artificial Evolution" thematically deals with creating hybrid life forms; life forms that may include manmade elements in the mix. The key formal element is symmetry. Jantzen explores issues of GMOs (genetically modified organisms) with their creation of Chimera-like new life forms and "Intelligent Design" with its slant on evolution being designed by a creator. She is using the features of modifying and design to create new imagery. Along with her interest in nature, Ellen finds the digital world of computer technology compelling and is drawn to the juxtaposition of its reality with the natural world. Each image in the series is titled as if it were a new life form.

Jantzen has received a number of honors since first being asked to participate in the "Allegories" project. She has been asked to exhibit her work in a solo show at MAG (Moreau Art Galleries) at Saint Mary's College, Notre Dame in the fall; she was selected as the ASCI (art and science collaborators inc.) artist of the month for March; and she is on POL Oxygen's website as a news feature titled "Artificial Life" for Monday April 02. In addition, three of Jantzen's photographic manipulations have been selected for the current exhibition in the Corporate Art Collections Department of Pfizer's headquarters in NYC. The theme is human biology/micro world or medical-inspired artworks.



REGINALD BROOKS "YOUR SFACE OR MINE" -TOP AND "HEY, U
FUNK'N WITH MY DNA?" -BOTTOM

In the white papers that support the science behind these mostly humorous works, Brooks shows an obvious fascination with reproducible patterns in nature...patterns in numbers...and the magnificent diversity (good for some, not so good for others...depends on the context) that issues forth from the slightest changes. And yet the changes are still part of the bigger pattern. Part of chaos theory suggests that chaos is simply unrecognized order. Brooks finds that the dialogue can be enhanced by addressing these difficult issues of the divided whole...the parts...through humor and puns. He believes that everyone can relate to the human face and most can relate to pretty geometric patterns, at least esthetically. Brooks challenges us to move our thought processes towards...actually past...the pretty picture to the realization that just because it fits, doesn't mean it will work. He argues that the digital manipulation of images and motions is awakening us to this potential for exchange and substitution. Surrogate moms were just the start.



JULIET DAVIS "ALTAR-ATIONS"

As explained by Davis, "Altar-ations" is a wedding planner gone awry, to question who is really in control of a woman's self-image and gender construction, and to consider commercial underpinnings of prescribed gender, sex, and ethnic attributes. Accessed through the satirical interface are serious interviews with young people who are contemplating sexuality, marriage, and reproductive technologies. Choose your engagement ring, spin for your spouse, build a better baby, and manage your virginity--it's all a click away.



Davis explains that interactive environments allow for more profound exploration of issues than the passive reception of information often affords. Ultimately, she chooses the Internet as an art medium, not only because of the interactive explorations that are possible, but also because it represents an inherently ironic and politically charged space as we rethink the body and identity in relationship to it. It is a place of deception, identity-shifting, utopian thinking, dystopian foil. For all of these reasons, interactive media represents interesting space for exploring issues about embodiment, identity, and technology, and it is a useful space for involving students. Davis is currently an Assistant Professor of Communication at the University of Tampa.



SONJA HEBERT "BRANDING STRANDS"

Hebert explains that hair roots contain among other important information, the unique genetic material of an individual yet, as a disembodied extension of the person, threaten notions of self-containment and property. In an age of copyright, patenting, and identity tracing, protecting ones genetic property when the boundaries defining self are contested can place self ownership on shaky grounds. In a consumerist society, possessions are commodities traded for capital. Hebert's installation of beaded and adorned masses of hair placed on oversized glass Petri dishes are light projected onto the floor. The projection echoes mitotic chromosomes while the decorative elements on the hair masses imply the appropriation of biological elements belonging to other people without their consent.



Hebert is a graduate from Emily Carr Institute of Art and Design (2002) and received a BC Arts Council Scholarship during her studies. She was a ceramic apprentice with Jean Cartier in Montréal and was a resident artist with Mawa (Mentoring Artists for Women's Art). Her work has been exhibited at the Third Avenue Gallery, Evergreen Cultural Centre, and the Galerie du Centre franco-manitobain. Her large scale drawings have been featured in Via TVA, a national television series profiling Canadian artists. She currently resides and creates in Vancouver, BC.



SARAH HAUSER "PUPPYFISH II" -TOP AND "PORCUPHANT" -BOTTOM FROM THE "HYBRID ANIMAL" SERIES

In 2004, Hauser began a new series of hybrid animals. These evolved from her animal series, adding an element of scientific aberration. During the development of several ongoing animal series, she began swapping body parts. Each successive morphological juxtaposition added momentum to this new series. Drawing reference from natural history illustration and mythology, an imaginary animal world is being assembled. Her research for this project has spanned such topics as animals and history, skeletal structure, and habitat. As the entire series matures, there is a vibrant dialogue between the historical, mythological, and modern taking shape.



Billions of years of genetic experimentation have yielded an incomprehensibly wide spectrum of life forms. While doing paleontological research, Hauser explains that one can see unbelievably strange and sometimes hilarious twists and turns in genealogy that are no less strange than her surreal cogitations. The deeper she delves into research, the more connections she finds between strange beasts of the past and those that were born in her imagination.



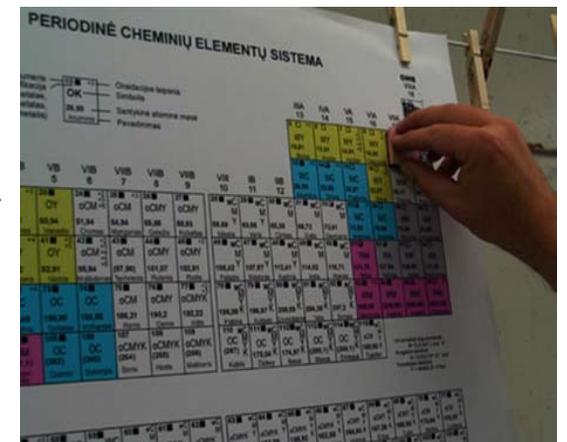
Hauser's work has won numerous awards from bodies such as the Louisiana State University, Target Gallery, and Atteboro Museum, (to name only a few) and has been included in many solo and group shows.

BILL FISHER "SERITYPES"

In answer to those who would demand we disregard the Constitution and common decency and live in silent, surveilled fear of unseen, dark enemies as Proof of our patriotism, Fisher attempts to reaffirm a belief in a shared humanity. He argues that the Human Genome Project has proven the concept of Race to be a construct, and illustrates the infinitesimal biological difference between individuals. Fisher denies race, gender, borders, and the construct of "other," a key mechanism in the dehumanization of the Oppressed and the Oppressor. He affirms the fundamental parity of all individuals as revealed through analysis of the human genome.



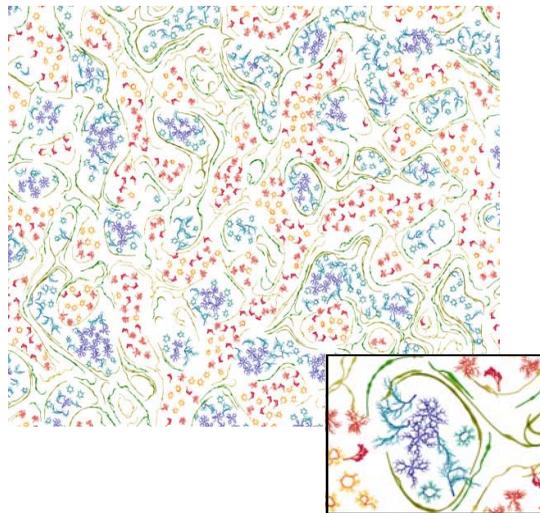
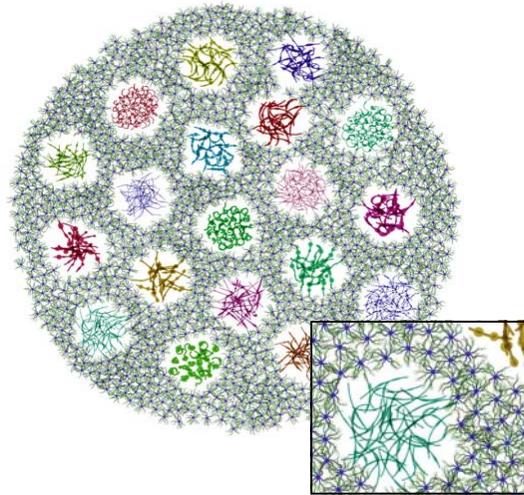
In "Seritypes," the genetic material of hundreds of international participants is combined with serigraphic inks as the phenotypes of the (arguably) two most powerful men on the planet merge. Though seemingly polar opposites politically and philosophically, their rich common ground is now reified for all to witness. As a critique of the mechanisms of cultural domination, Fisher's work aims to subvert the tools of hegemony. Recent experiments in shared authorship examine quantification of the individual and identity, cults of the intellect and the expert, and the cynicism of Empire. Fisher is currently an Interim Chair, Associate Professor of Art, at Georgia College & State University.



PHILIP GALANTER "UNTITLED" -TOP AND "UNTITLED (2007)" -BOTTOM PHOTOGRAPHIC LASERJET PRINTS

Most of Galanter's creative work is in the realm of Generative Art, defined as "any art practice where the artist uses a system, such as a set of natural language rules, a computer program, a machine, or other procedural invention, which is set into motion with some degree of autonomy contributing to or resulting in a completed work of art."

These "drawings" are generated using software Galanter wrote in Matlab to drive Corel Painter as a rendering engine. After he sets some initial conditions, the drawing emerges without intervention. All aspects of the picture, from the overall composition to the smallest detail, are generative and self-organized. The resulting very high-resolution digital image (about 12000 by 9000 pixels) is rendered on standard photographic material using a LightJet printer. The LightJet is unique in that it uses 3 laser beams (red, green, and blue) to create true continuous tone dots.



GABRIEL HARP "CHROMOSOMA"

Harp explains that the object medium in his installation "Chromosoma" suggests an analogy between the genome and the cinema. Shared histories of discovery and language also point to an opportunity for discovering unmarked classes in the genome as new methods of representing the genetic unseen arise through the analogy of cinematic language. The analogy between cinema and genetic coding takes into account pre-existing metaphors, which are not satisfying given the current state of scientific understanding. Pre-existing systems of representations such as blueprint, code, and map also fail to satisfy the social requirement that language be accessible and gender neutral. The value of this presentation is the familiarity it affords when using a cinematic model to structure our understanding of the genome.

