

Textile and Materiality Research Cluster Activity Report for Hexagram RC - May 2017 to April 2018

The Textiles and Materiality Research Cluster is part of the Milieux Institute for Arts, Culture and Technology at Concordia University. Textiles and Materiality brings together research creation expertise from textile arts and material culture to experiment with methods, processes and interdisciplinary modes of thinking that will shape the future of textiles, material objects and charged experiential spaces.

The cluster fosters research-creation expertise in textile arts and technologies, such as complex weaving, electronic fabrics, interactive garments, rapid prototyping technologies, emerging materials, soft surfaces, and smart fashion. The synergy, momentum, and strategic collaborations that emerge from this collective, support innovation in new material research practices, leveraging the rich potential of interdisciplinary work.

Research Spaces

The cluster is located in the Engineering and Visual Arts Complex (EV) in downtown Montreal, at 1515 Ste-Catherine Street West. There are four designated research spaces currently under management of the Textiles and Materiality Cluster:

EV10-730 The Cluster Commons is a shared space for various activities, meetings, exchanges, computation and small equipment usage. Visiting researchers are invited to use this as a production space, as well as all cluster members.

EV10-725 The Tajima Laying Machine can be used for large scale embroidery and for laying flexible circuitry onto fabrics. The room includes design stations and small equipment and materials storage.

EV10-735 The Jacquard Loom, the Embroidery Machine and a Large Scanner combine digital and traditional approaches for imagery in textile.

EV10-615 This room is used by Studio subTela, an international team of researchers and RAs from Arts and Engineering in the development of textile antennas for interactive wearables and environments.

Temporary Space Two large, older digital textile printers are currently housed in a temporary space, which will soon become unavailable in the future.

Leadership

The cluster is co-directed by Barbara Layne and Joanna Berzowska.

Cluster Membership

Full-time Faculty – Joanna Berzowska (cluster co-director), Barbara Layne (cluster co-director), Kelly Thompson, pk langshaw, Kathleen Vaughan, Sarah Nance, Elaine Cheasley Paterson, Alice Jarry, Kelly Jazvac, Cathia Pagotto

Graduate Students – Geneviève Moisan (former), Donna Legault, Claire Nadon, Nicholas Shulman, Nicole Macoretta, David Somiah Clark, Kay Noele, Laurence Weyand, Agustina Isidori, Jessica Bebenek, Anna Eyler, Patil Tchilinguirian, Elizabeth Johnson, Etta Sandry, Nora T. Lamontagne, Emma Hoch, Vanessa Mardrossian (PhD student), Suzanne Kite (PhD student), and Kelly Arlene Grant (PhD student)

Undergraduate Students – Rythâ Kesselring, Lea Schwarz, Alexandra Bachmayer, MJ Daines, Charline Lemieux, Lucas LaRochelle, Laura Isabel Rosaro, Andrea Mestre, Alyse Tunnell,

External Affiliates – Lauren Osmond, Janis Jefferies

Of the 40 cluster members, there are ten full-time faculty members, 27 Concordia student members, and two external affiliate members. Of the student members, there are nine undergraduate students and 18 graduate students. The six undergraduate students are all from Fine Arts (Fibres and Material Practices, Sculpture, Art History, Intermedia, and Computation Arts). Of the graduate student members, faculties include Fine Arts (Fibres and Material Practices, Sculpture, Design, and Computation Arts, Art Education), INDI, English and Creative Writing, and the Humanities. One external affiliate member is a graduate student in Art Conservation at Queens University, and the former Head of Operations and Coordination at Milieux. The other affiliate member is a Professor of Visual Arts at Goldsmiths, University of London, UK. All student members, with the exception of one (David Somiah Clark, Speculative Life cluster), have Textiles and Materiality listed as their primary cluster.

Of the student members, six graduate and five undergraduate students were recruited in 2017 – 2018 . Of the faculty members, Kelly Jazvac (Associate Professor, Studio Arts) and Cathia Pagotto (Assistant Professor, Theatre) joined the cluster in 2017 – 2018.

Three graduate students, Nicole Macoretta, Donna Legault, and Jessica Bebenek graduated in June 2018, but we have extended their cluster memberships for one year following graduation. One undergraduate student, Lea Shwarz, graduated in June 2018 but will remain a cluster member for one year following graduation.

The following members acted as research assistants throughout the 2017 – 2018 year: Sophia Borowska (no longer a member), Alexandra Bachmayer (assistant to Joanna Berzowska), Kay Noele (assistant to Kathleen Vaughn), David Somiah Clark (assistant to Chris Salter), and Nicole Macoretta (assistant to Kathleen Vaughn).

Geneviève Moisan was employed as the Research Support Technician for the Cluster. Whitefeather Hunter and MJ Daines held the position of Research Cluster Coordinator during the 2017 – 2018 period.

<https://textilesandmateriality.wordpress.com/about/research-members/>

Productivity Report (May 2017 – April 2018)

T&M GUEST SPEAKERS | VISITORS

In conjunction with *The Material Turn* exhibition (March 5, 2018 – April 13, 2018) and *The Material Turn* symposium (March 10, 2018), Ellen Rothenberg presented “Forays of a Future Force Geo Speculator: research, presence, geographies” to the Milieux Institute. Rothenberg’s practice is critically engaged with exploring different approaches to looking at materiality and concept within her practice. Her performances, installations and collaborations all have markedly generative quality, as she often probes formal boundaries for what they can produce and designs responsive structures that encourage participation. In this way, aesthetic, political and social forces all play a part in the production of Rothenberg’s ongoing work as well as the essential tenets of inclusivity, collaboration and receptivity.

<https://milieux.concordia.ca/event/artist-talk-by-ellen-rothenberg-forays-of-a-future-force-geo-speculator-research-presence-geographies/>

The Material Turn Symposium brought in several external artists and researchers to present their research, including Robin Kang, Adjunct Professor in the Fibre and Material Studies Department at Tyler School of Art; Shelley Socolofsky, an artist and educator living and working in Portland, Oregon, USA; and Laura Splan, whose interdisciplinary studio practice explores intersections of art, science, technology and craft.

For the symposium, Shelley Socolofsky discussed her collaborative video project *Cauldron* and its intersection with textiles, science, and the expanded field. Robin Kang discussed her woven works, which are inspired by the historical connections between the textile industry and the development of technology. She shared her process utilizing a hand operated digital Jacquard loom to create tapestries that invoke mythic motifs familiar to long histories of textile traditions with an added industrial mediation and cyber mysticism. The juxtaposition of textiles with electronics opens an interesting conversation of reconciling the old traditions with new possibilities, as well as the relationship between textiles, information systems, language, memory, and the sacred. Laura Splan presented her recent work that uses biosensors to produce patterns for textiles and movement for biosensor-actuated apparatus. She discussed her upcoming exhibition at Occurrence (Montreal) that includes computerized Jacquard weavings with patterns driven by (EMG) electromyography.

<https://www.materialturnproject.com/symposium>

Bhakti Ziek (US) visited the Textiles + Materiality cluster August 28, 29 and 30th, 2017 to meet with and present to cluster members, as well as give a talk to Milieux members. Ziek, a former college professor of textiles, is known for her weavings that have explored the full spectrum of weave technology from backstrap to fully electronic jacquard looms.

<https://milieux.concordia.ca/event/textiles-and-materiality-presents-an-artist-talk-by-bhakti-ziek/>

The Cluster has offered individual and group tours to students and researchers over the past year, both from Montréal and abroad. Notable visitors have included:

- In June 2017, the cluster hosted Director Patric Clanet, Interactive media artist Michelle Heon, and Game Designer Hervé Jolly from the École européenne supérieure de l'image in Poitiers France. The visit included a discussion of potential exchange program with Concordia University.
- On November 16, 2017, the cluster provided a tour for students from the Montréal Centre for Contemporary Textiles.
- Students from UQAM's Business Management and Engineering programs visited the cluster on November 20th, 2017.
- In conjunction with the Material Turn Symposium, the cluster offered tours of the facilities to a variety of students and researchers.
- On March 15, 2018, the cluster toured a group of researchers from Rotterdam.
- Professor Marc Losier from Grenfell/Memorial University, Corner Brook Newfoundland. Losier was in the process of developing an experimental textile program for his university.
- Professor Sofian Audry and a group of researchers from the University of Maine toured the facilities in early 2018.

In her role as Research Support Technician, Geneviève Moisan coordinated, organized and gave multiple tours of our facilities to members of the Concordia community, different companies, museums and members of varied art communities, donors, as well as prospect and future students from different schools around the country. Moisan also responded to requests from researchers and students who wanted to get a better idea on how our cluster and equipment could help forward their research.

CONFERENCES | TALKS | EXHIBITIONS

From May 16-22, 2017, Kathleen Vaughn, Cynthia Hammond, and Kelly Thompson produced a collaborative suite entitled, ***Il giardino dell'Eden*** as part of the "off-

Biennale” art activities. The project addressed the histories and current realities of Venice’s largest private garden, for a generation in accessible to visitors, and linked to thematics of local determination of the future of the tourist-overrun city. Installations at various sites on La Giudecca, Venice, and documented on the project blog:

<https://giardinodelleden.wordpress.com/>

Studio subTela and WhiteFeather Hunter presented at **Elektra Festival's MIAN** event in June of 2017. The Marché international de l’art numérique (MIAN) / INTERNATIONAL MARKETPLACE FOR DIGITAL ART (IMDA) is the professional component of ELEKTRA. Since 2007, MIAN hosts major stakeholders in digital arts from all continents. Each year, the MIAN is a unique opportunity for exchange and networking, helping to create a real synergy in the medium of digital art. Gen Moisan (for Studio subTela) and WhiteFeather Hunter both presented work during the MIAN networking event.

<https://www.elektramontreal.ca/mian>

Studio subTela presented at the 2017 **IEEE International Symposium on Antennas and Propagation** and USNC-URSI Radio Science Meeting in San Diego. Studio subTela members, Muhammad Mustafa Tahseen and Barbara Layne presented a poster session, "Artistic Textile Antennas" by Muhammad Mustafa Tahseen, Barbara Layne and Dr. Ahmed A. Kishk, at the 2017 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting in San Diego, California, July 11, 2017.

The symposium is the premier international forum for the exchange of ideas on state-of-the-art research in antennas, propagation, electromagnetic engineering, and radio science. Featuring a wide range of technical sessions, workshops, short courses, exhibits, the symposium provided the opportunity for Studio SubTela members to interact with the world's leading experts in antennas and propagation from academia, industry, and government.

<http://2017apsursi.org/>

Joanna Berzowska, Kelly Arlene Grant and Lauren Osmond presented at the **Fashion Symposium - Symposium de recherche sur la mode at the Montreal Museum of Fine Arts (MMFA) - Musée des beaux-arts de Montréal (MBAM)** on 23 September 2017. The event also featured a tour of the fashion and technology labs of Barbara Layne and Joanna Berzowska at Concordia University, followed by a small reception in the Textiles and Materiality Research Cluster Commons Area.

Joanna Berzowska presented research on functional fibers and textiles, wearables, and smart garments. Kelly Arlene Grant presented research on history, punk/retro, and moving from fibre to fashion. Finally, Lauren Osmond presented research on conservation, techno-textiles, interactivity, and museum practice.

<https://textilesandmateriality.files.wordpress.com/2017/09/program-sept-2017.pdf>

Cluster members Lauren Osmond and Barbara Layne (& team Studio subTela) presented their project, *Maxwell's Equations*, in the exhibition **CODED THREADS; Textiles and Technology at The Western Gallery** in Bellingham, Washington which opened on Sept. 27, 2017. Curated by Seiko Perdue, this exhibition brings together fourteen visual artists who use new textile technologies in their practice. Barbara Layne presented an artist talk before the vernissage on Sept. 28.

<https://westerngallery.wvu.edu/coded-threads-textile-and-technology>

Sarah Nance presented her solo exhibition, ***an inventory of moons***, at **1708 Gallery** in Richmond, VA from October 27 – December 2, 2017. The work by entangles lunar, anthropocenic, and earthly geologies to create a de-centered experience of place. It draws heavily from exogeology, the study of geological features and processes to understand celestial rocky bodies. Installation, image, and sound represent the moon as an errant satellite, a harbinger of dystopia, and a catalyst for erosion. Through an inventory of moons, Nance hopes to articulate the experience of looking well beneath the surface of the earth and our presence within it, in order to simultaneously reach beyond it.

For the exhibition, Nance constructed and documented relationships between light, geology, and time— elements that contribute to our understanding of place. In Nance's site-responsive installations, she utilizes the geology of each chosen site through found natural materials such as rock, sea ice, and sand. As a result, these works are uniquely about place. She creates large-scale fabrics through the accumulative processes of weaving or beading, as integral components of recent installations. These couplings of handwork with natural formations embrace the temporal fluctuations between the human and the geologic. *an inventory of moons* also includes several sound pieces by collaborator Burke Jam.

<http://www.1708gallery.org/exhibitions/exhibition-detail.php?id=89>

Several faculty and student cluster members participated in ***The Material Turn Symposium*** on the 10th of March, 2018, organized by cluster faculty member, Kelly Thompson. The Material Codes project and the Textiles and Materiality Research Cluster co-hosted a one-day symposium at the Milieux Institute to facilitate international and intergenerational conversations around contemporary textile practices in the digital

information age. In particular, the ways in which the materiality of digital technologies are interpreted and translated by artists who mine, question and transform diverse data sources through expanded textile approaches.

The “material turn” broadly references a global philosophical and material culture impetus to readdress the dominance of language over objects. Artists and students will present their research and creative responses to questions of digital futures, surveillance, cultural translations, social data mining, and materializing invisible systems. The objective of the symposium is to involve participants in an interdisciplinary event to share knowledge and build research and collaboration opportunities around materiality and the digital.

Janis Jefferies presented the symposium’s keynote discussion, with presentations by Barbara Layne, Kathleen Vaughn, Sophia Borowska, RythÂ Kesselring, and Suzanne Kite. Further discussions were facilitated by cluster members WhiteFeather Hunter, Alice Jarry, Janis Jefferies, Sarah Nance, Etta Sandry, and Studio SubTela

<https://www.materialturnproject.com/symposium>

Sophia Borowska, RythÂ Kesselring and Barbara Layne presented their work for ***The Material Turn*** exhibition at the FOFA Gallery, which was curated by Kelly Thompson and WhiteFeather Hunter.

The Material Turn exhibition (March 5, 2018 – April 13, 2018) presents international and intergenerational conversations around contemporary textile practices in the digital information age. In particular, the materiality of digital technologies is interpreted and translated by artists who mine, question and transform diverse data sources through expanded textile approaches.

The “material turn” broadly references a global philosophical impetus to address the increasing digitization of culture and society, and the political implications of this trend, including a counter response of placing emphasis on the physicality of matter. Creative material responses to questions of data control, surveillance technology, translations, algorithmic interpretations, social data mining and materializing invisible systems are some of the core interests of the exhibitors.

One section of the exhibition includes *The Archive of the (Un)loved*, a ‘touch gallery’, or material archive that speaks to textile processes and gathering data/information as part of the creative development. What happens with this material information afterwards is reflective of the mass of unused, collected data floating in the interstices of the Internet. What new information might we glean from sharing, re-contextualizing and forming new relationships with these materials?

<http://www.concordia.ca/cuevents/finearts/fofa/2018/03/05/material-turn.html>

The full archive of cluster members' activities can be found on the T&M website's front page: <https://textilesandmateriality.wordpress.com/>.

ACTIVITY REPORT

As Co-Directors, Joanna Berzowska and Barbara Layne were involved in hiring and overseeing the Research Cluster Coordinator positions, developing equipment policies and procedures with the support technician, and encouraging and facilitating cluster exchanges and workshops. They also developed a critical path document outlining goals for the upcoming year.

As the cluster Research Support Technician, Geneviève Moisan designed and offered a series of training workshops for the different equipment and software available within the cluster: Embird and the Brother embroidery machine, Pointcarré and the Jacquard loom and DG/ML and the Tajima laying machine. Moisan refined the training documents for the Jacquard Pointcarré software as well as recording four video tutorials for the Tajima Pulse and Embird softwares. In the summer of 2017, Moisan trained a team of students mentored by Joanna Berzowska and helped them produced soft toys reactive to touch.

Over the past year, Moisan worked with different researchers including Joanna Berzowska, Hedgehog Project, and Professor Patrick Traer. As technician, she also trained the subTela studio team in their work with Barbara Layne. Moisan also trained and provided support for many PhD, Masters and BFA students including: Suzanne Kite, Elizabeth Johnson, Etta Sandry, Laurence Weyand, Donna Legault, WhiteFeather Hunter, Alexandra Bachmayer (supervised by Sandeep Bhagwati), Sophia Borowska, Lea Shwarz, Lucas LaRochelle, MJ Daines, Laura Isabel Rosaro, Patil Tchilinguirian, Claire Nadon, Rythâ Kesselring, Fanny Savoie, Nicholas Shulman, Charline Lemieux, and Stanley Fevrier (UQAM, Hexagram). These researchers created work either on the Jacquard loom, the Tajima machine, or the Brother embroidery machine after their training. These researchers and students come from varied backgrounds ranging from Communication Studies, Design and Computational Arts, Engineering and Studio Arts.

As the technical support specialist, Moisan also maintained the existing equipment as well as suggesting new purchases, which enriched the cluster's supply of threads and materials for current and future researchers. The cluster also upgraded the version of Embird to a much more user-friendly version, which allows for faster and easier image digitization.

On a by-need basis, Moisan trained researchers and students to weave on the Jacquard loom and to prepare their files with the following software: Pointcarré Basic Weave Structures and Pointcarré Cloth or How to work with a Double Warp on Pointcarré. For the Brother Embroidery machine---which is more accessible---Moisan offered workshops in "Basic Embroidery with Embird and Machine Training," "Digitizing

with Embird,” and “Sfumato Stitch with Embird.” For the Tajima machine, Moisan gave “Basic Embroidery” and “Basic Laying” workshops. These training workshops varied in length from three hours to up to 9 hours each.

To ensure safe use of equipment, Moisan produced two safety documents for members, one for the Jacquard loom and another for the Tajima machine. The Tajima Safety document was central to the Tajima safety training, which Moisan offered regularly for members.

The Research Cluster Coordinator completed and submitted proposals on behalf of the cluster, as well as collaborating with Barbara Layne to improve the submission process for student cluster grants.

Active membership in the cluster requires presenting a talk or other activity to the rest of the cluster members. Over the past year, a number of members presented formal talks of their work, and these talks were often offered as Milieux-wide evening events open to other clusters and their membership. On February 28, 2018, Kelly Thompson and Kay Noele presented their work to Cluster members, followed by questions and conversation. Kelly Thompson shared her experience producing her work, *Climate Data Labyrinth*, at the TextileLab in Tilburg, Netherlands. MA Art Education student Kay Noele discussed her experience from *Tinkuy: Gathering of Textile arts in Cusco, Peru*: a conference which highlighted indigenous textile traditions and artisanal making in the Andes.

The T&M cluster collaborated with Marc Beaulieu, head of Milieux facilities, to produce a series of workshops as part of the Milieux Make program. These workshops were designed to have a clear output, a “take-home” for anyone who participates in them (a drawing, a patch, an electronic wearable). They were catered for Milieux members and the general public as a fun way to introduce students and researchers to our research center. The T&M cluster workshops encouraged people to work with textiles, while also demystifying the Tajima machine. They served as an entry point for many students who decided to invest in more software training. In total, more than 30 people took the workshops over the year. The workshops were entitled: “Drawing with threads,” “Make your own patch,” and “Soft Circuits: Basic I/O.”

Cluster member Claire Nadon offered the second in a series of workshops on pattern drafting on the 26th of April, 2018. Entitled “Body Geography,” the workshop involves research into a new way of drafting garment patterns, based on transferring actual 3D measurements to a 2D surface, as a crossover between modeling and traditional pattern drafting.

Donna Legault offered an electronics workshop entitled, “UNMAKE: an intro to electronics” on April 11, 2018. This two-day workshop explored electronics through hands-on experience and encourage the reduction of e-waste by safely reclaiming cost effective electronic components for your personal projects. The workshop covered

reclamation and component function while allowing participants to refine skills in soldering, circuit building and troubleshooting.

RESEARCH FUNDING REPORT

FACULTY GRANTS

Over the past year, Kelly Thompson received \$4920 from the Concordia University Research Committee for [The Material Turn](#) Exhibition and Symposium. The grant was part of the Aid to Research Related Events, Exhibition, Publication and Dissemination Activities (ARRE) Program.

Barbara Layne's research is currently funded by the *SSHRC Insight Grant for Research Creation: The Enchantment of Cloth*, PI: Barbara Layne, with Janis Jefferies and Mohammed Reza Soleymani (\$323,800 over 4 years, 2014-2018).

Kathleen Vaughn is entering the second year of her role as the Concordia University Research Chair in Socially Engaged Art and Public Pedagogies (Tier 2).

Kathleen Vaughn is also co-Investigator on SSHRC Connections grant, "Oral History in Challenging Times," linked to the Oral History Association conference being hosted at Concordia October 2018. Dr. Steven High (PI), Dr. Cynthia Hammond (CI).

Kathleen Vaughn is a collaborator for the SSHRC Partnership Engage Grant, "Urban Witnesses: Neighbourhood Change, Montreal's Elders, Oral History and Research-Creation, Dr. Cynthia Hammond (PI), Dr. Shauna Janssen (CI), Dr. Steven High (collaborator), Dr. Barbara Lorezkowski (collaborator), with Atwater Library and Computer Centre, Eric Craven.

JOINT GRANTS

The Material Codes project and the Textiles and Materiality Research Cluster co-hosted a one-day symposium at the Milieux Institute to facilitate international and intergenerational conversations around contemporary textile practices in the digital information age. In particular, the ways in which the materiality of digital technologies are interpreted and translated by artists who mine, question and transform diverse data sources through expanded textile approaches.

<https://www.materialturnproject.com/symposium>

:body:suit:score (:b:s:s) is a four-year research-creation project that explores the

technological, creative, and aesthetic possibilities and applications of mobile music performance through the use of vibro-tactile score information. *.b:s:s* brings together the following four inter-x art, music, and body-based academics and their inventive research hubs: Sandeep Bhagwati, Founder and Director of Concordia’s matralab; Dr. Marcelo Wanderley, Director of McGill’s Input Devices and Music Interaction Laboratory (IDMIL); Joanna Berzowska, Founder and Research Director of XS Labs, a design studio that innovates in electronic textiles and responsive garments; and Isabelle Cossette, Founder and Director of McGill’s Music Performance and Body Lab (MPBL).

<http://matralab.hexagram.ca/research/body-suit-score/>

2018	The Material Turn Symposium, Textiles and Materiality RC	Milieux Institute	\$5000	PI: Kelly Thompson
2014 – 2018	Musicking the Body Electric – New Music for Spatialized Performing and Listening Using Novel Score Interfaces for Mobile Musicians	SSHRC Insight	\$444,997 Fall 2014 – Spring 2018	PI: Sandeep Bhagwati
2017 – 2018	“Stories from Studio Arts,” co-investigators Kathleen Vaughn and Eric Simon	Team SEED Grant	\$25,000	PI: Kelly Thompson

SUPERVISION

Over the past year, Kelly Thompson has supervised four students as part of *Material Codes: Ephemeral Traces* project, including:

BFA: Sophia Borowska

MA: MJ Daines

MFA: Etta Sandry, Elizabeth Johnson

Over the past year, Kathleen Vaughn has supervised a number of graduate projects and research assistants:

Graduate supervision: 10 MA students; 6 PhD students; Co-supervision of 2 PhD students; Humanities Minor Field Advisor of 2 PhD students

Research assistant supervision: 3 cluster members Emma Hoch (current MA student, Art Education); Kay Noele (current MA student, Art Education); Nicole Macoretta (MA, Art Education); 3 non-cluster students; 1 technical assistant, T&M Research Support Technician: Geneviève Moisan.

As part of the *Baby Tangos* project, Joanna Berzowska (director of XS Labs) supervised a team of students drawn from the Faculties of Engineering and Computer Science and Fine Arts, in collaboration with Concordia's District 3 Innovation Center and the Milieux Institute for Arts, Culture and Technology.

STUDENT GRANTS

Student grants are awarded through a competitive process twice per year: once in the Fall semester and once in the Spring. Students are eligible for funding after three months of active membership, and can apply repeatedly for up to three months before the date of graduation, for a maximum funding total of \$3000. To date, eight student grants have been awarded.

The student grant categories include: Travel (\$400 national/ \$700 international), Independent Research (up to \$800), and Seed grants for interdisciplinary team research projects (up to \$2000).

In the Fall 2017 semester, grants were awarded to Alexandra Bachmayer (BFA student) and Vanessa Mardirossian (PhD INDI student) with collaborators WhiteFeather Hunter (research affiliate/ mentor) and Geneviève Moisan (research affiliate).

The collaborative research-creation project, which received a Seed Grant, is entitled, *The Bactinctorium*. "This project aims to research and experiment with growing pigments using different bacteria... This innovative technique is at the forefront of research, and currently only used by a handful of researchers and artists globally. Growing bacteria in order to dye or print on fabrics opens up new avenues for chemical-free textile dyeing.

These new techniques would also enable textiles—at the end of their lifespan—to become nutrients again and return safely to the ecosystem after use. This integrates and reinforces the principle that waste equals food (McDonough & Braungart, 2013). The team plans to experiment with diverse bacteria in the Speculative Life BioLab and find new ways of incorporating bacteria dyeing into textile design.

This knowledge should be shared widely considering the strong interest in finding alternatives to synthetic pigments. Bacterial pigments, due to their better biodegradability and higher compatibility with the environment, offer promising avenues for various applications (Kulandaisamy Venil, Zakaria & Ahmad, 2013)."

In the Winter 2018 semester, grants were awarded to Kelly Arlene Grant (Individual), Elizabeth Johnson (Individual), Rythâ Kesselring (Individual), Kay Niedermayer (Individual), Etta Sandry (Individual), Nicholas Shulman with collaborators Claire Nadon and Chris Novello (Seed/Team).

Kelly Arlene Grant received an Individual Research Grant to participate in two major living history programs in the US. The first event consisted of two major anniversaries of the American Revolution and allowed Grant to participate in 250th commemorative events, hoping to understand those events more fully, and to understand how these kinds of events are planned and executed. The second event, on the May 5th weekend, allowed Grant to participate in an immersive living history event. This is a type of event where participants walk in with all items of material culture they plan to use over a given weekend. The event contributed to an understanding of how the pieces of material culture Grant has recreated work through active use.

Elizabeth Johnson received an Individual Research Grant to construct a small-scale Jacquard loom. Johnson is experimenting with different ways of mechanically controlling individual heddles using recent technology. Although electronically driven jacquard looms already exist, Johnson is interested in what is possible for making a smaller scale loom that could eventually be more economical and accessible to artists and makers.

Rythâ Kesselring received an Individual Research Grant for the project Woven Scores. With this project, Kesselring aims to analyze the rhythm of the weaver is imprinted into the woven textile. The project Woven Scores explores the link between the weaving loom, the rhythm of the body while weaving, and the textile object itself. Throughout history, weaving has been a living archive performed from generation to generation, with the loom acting as a transactional object that maintains the rhythms of remembrance, tradition and identity. As living archives, woven cloths are traces of the movements done by the weaver. Kesselring reflects on how the actions made on the loom are translated into the woven cloth.

Kay Niedermayer received an Individual Research Grant to examine the relationship of fiber and textile to memory and place through three woven maps and oral history. In this textile inquiry, Niedermayer will unearth the legacy of her settler family and the complicated colonial history, wrapped pride as well as displacement, that is embodied in the geography of a centennial homestead farm near Mortlach, Saskatchewan.

Etta Sandry received an Individual Research Grant to draft and weave a twelve-layer cloth that explores dimensionality and transformation in weaving. This project is guided by a curiosity about oppositional structures, specifically the binary aspect of weaving. The goal for this project is to explore whether and how weaving can simultaneously be both binary and multiplicitous.

A Seed Grant (team) was awarded to Nicholas Shulman in collaboration with Claire Nadon and Chris Novello for their research into 3D content and spatial computational

experiences. In this project, they will explore how powerful graphics processing and modern depth sensing technology packaged in a wearable form factor can enable new workflows in 3D content creation for immersive media such as virtual and augmented reality. To execute this vision, the team plans to put a desktop-class graphics processor and battery into a beautiful, bespoke, digitally embroidered bag. This powerful portable computer-bag will be connected to a cutting edge depth sensing camera, which we will repackage in fabric for improved usability and aesthetic coherence. Once assembled, this computer apparel prototype will allow the team to explore how wearable GPUs can enable the capture of 3D textures for new workflows in physically-based rendering.

COLLABORATION REPORT

Studio subTela continues its ongoing collaborations with Professor Janis Jefferies of Goldsmith's College, London UK and Dr. Ahmed Kishk in the Engineering faculty at Concordia University.

Kelly Thompson collaborated with former Cluster members Sophia Borowska and WhiteFeather Hunter to produce a series of essays in conjunction with the FOFA Gallery's [*The Material Turn*](#) exhibition (March 8 - April 13, 2018).

LTA faculty member Sarah Nance has been working with Surabhi Ghosh on a series of sand drawings/installations that draw from mathematical formulas to facilitate responsive/collaborative making of ephemeral works.

Sarah Nance has also been collaborating externally with Burke Jam to develop a Concordia special topics course in Fibres: Time-Based Textiles. It will run as a course that primarily explores the intersection of sound and fibre. Burke will be a visiting artist/demonstrator to the course. We also collaborate in our own artistic practice, dealing with the sonification of objects and environments.

Kathleen Vaughn is currently a co-director of Concordia's Centre for Oral History and Digital Storytelling (COHDS), a research centre, as well as a network of collaborations and a community of practice with artists/scholars, students and community affiliates.

Vaughn has collaborated extensively over the past year with COHDS co-director Cynthia Hammond, Steven High and Luis Sotelo Castro (CRC - Acts of Listening Laboratory) on co-curation of research-creation showcase for the Oral History Association conference.

Vaughn has also been working with environmental scientists of the Université du Québec à Trois Rivières and Université de Montréal and Liz Miller (Communications) on "The Colours of Water", FRQNT application (not funded) plus subsequent research activities

Vaughn collaborated with Dr. Steven High, Dr. Shauna Janssen and the Institute for Urban Futures on the Right to the City (fall 2017) teaching initiative, in collaboration with and sited at Atwater Library and Computer Centre.

Vaughn is also engaged in collaborative projects with the Montreal Museum of Fine Arts (2015-17) and (in development) with DHC Art (2017 -) on the creation and evaluation of participatory, socially engaged art projects.

OUTREACH

The T & M Cluster hosted a special reception on Saturday, September 23, 2017 for the Fashion Symposium at the Montreal Museum for Fine Arts, organized by Kat Sark, Founder of the Canadian Fashion Scholars Network This included formal tours of the cluster and discussions between symposium participants and cluster members.

<https://textilesandmateriality.files.wordpress.com/2017/09/program-sept-2017.pdf>

In her role as Research Cluster Coordinator, MJ Daines improved the functionality of the T&M cluster website and blog, organizing events and workshops that included both Cluster and non-Cluster members.

In her DISP 615 Summer Studio course, Kelly Thompson coordinated a tour of the Milieux facilities, with special attention to the T&M cluster. Thompson introduced Anna Eyler to the T&M Cluster, and Eyler is now functioning as the Research Cluster Coordinator.

**Please see attached PDF entitled "T&M_Outreach" for more information.*

FUNDING REPORT

Hexagram RC funds

Hexagram funds were used primarily to support the salary and benefits of the Research Cluster Coordinator, who organizes and administers research-associated activities of the Cluster and Hexagram RC members. This position is held by one Master's or Doctoral student from Concordia University. The position was held by WhiteFeather Hunter and MJ Daines during the 2017 – 2018 period. Additional funds were allocated towards a contract for a Research Support Professional to assist with cluster research projects.

Other funds supported visiting researchers, workshops, and guest speaker events organized by the Cluster and held during the year. Funds covered coordination, travel, special equipment, technical support, and promotion costs. Events and workshops will involved the cluster footprint and were open to Cluster and Hexagram RC members.

REVENUES

Visiting Lecturers + Accommodations + Conferences	\$ 4921
Research Cluster Coordinator (10 hours / week)	\$ 8306
Research Support Professional	\$ 3980
Benefits – Research, Student Employees	\$ 2156
Event Catering + Printing	\$637
TOTAL EXPENDITURES	\$20000

2017-2018 SHORTFALL = \$0.00