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As Director of the Fitchburg Art Museum, I am proud of our naturetech exhibition for many reasons. Throughout my career in the visual arts, I have been a fan and champion of the marriage of art and technology on all levels. It’s great to see FAM continue to proceed in this direction. I have also, for almost 1/4 of a century, been an avid supporter of New England contemporary art and artists. naturetech continues our commitment to this vital community. I am also a feminist, and was thus gratified that the opening of naturetech – a show of work by three women – opened on International Women’s Day. Here at FAM we have worked hard to sustain and deepen a partnership with Fitchburg State University. This exhibition features an online exhibition catalogue and blog by Fitchburg State students. The winter of 2015 has been a Siberian disaster here in Massachusetts, and naturetech is its colorful antidote, whirling with life and joy. naturetech shows off our newly-renovated galleries, and is itself an important part of the overall rejuvenation of this museum. And, it amply displays the burgeoning talents of FAM’s Curatorial and Installation team. naturetech looks like the future of the Fitchburg Art Museum.

Many thanks to the corporate sponsors who helped to underwrite the costs of this ambitious exhibition: Heat Trace Products, LLC, Headwall Photonics, Inc., and Paul Bryan, Inc. These companies, and their leaders, truly understand the importance of creativity to both technology and the arts.

Nick Capasso
Director
I can think of no better way for FAM to counteract one of the coldest, snowiest, harshest winters on record than through the warmth, color, and energy of naturetech. FAM is grateful to artists Nathalie Miebach, Cristi Rinklin, and Michelle Samour for sharing with us their infectious curiosity about the natural world and their jaw-dropping personal aesthetics. Their smart, vibrant, vivacious artworks nurture vital connections between art, nature, and technology, and – like this incredible winter of 2015 – remind us of our ever changing relationship to the earth in which we live. Thank you for making work that invites us all to be inquisitive, eager consumers of science, art, and beauty in equal parts.

This stimulating catalogue, which captures the essence of naturetech, was designed and executed by students in Professor Rob Carr’s Document Design course at Fitchburg State University in the Spring of 2015. Thanks to Patrick Condon, Jena Grover, Eden Gosselin, Luke Jackson, Dennis Levesque, and Juan Orta for a job well done!

We are so very thankful for this ongoing partnership with Fitchburg State. This semester, the collaboration with Dr. Carr’s students extended beyond the marvelous catalogue design to include a blog whose aim, according to the students who shaped it, was to, “enrich, enlighten, and entice others to learn more about naturetech, the Fitchburg Art Museum, and all things associated.” Thank you bloggers Miguel Fleitas Jr., Tina Lam, Sarah Morin, Anthony Paternoster, Angela Renzi, and Michael Wallmann for rounding out the ways FAM audiences can explore naturetech. Many of the photographs and videos used on the blog were captured and edited by yet another team of students in this course. Kudos to Patrick Burns, Mitch McCarthy, Marilyn Perpignant, Mitchell Sewert, Forrest Smith, Lindsay Tesoro, and Kevin Wysak for so enthusiastically and skillfully documenting this exhibition and its accompanying programs and events.

All at FAM are excited to debut our new hardwood floors as a backdrop for the stunning artwork in this exhibition. Facilities Manager Steve Backholm, along with Mel Bailey and Kyle McHugh got those floors sparkling and prepped the galleries for this magnificent work. Aminadab Cruz Jr. provided Spanish label translations and lent his sharp eye to the care and conditioning of the artwork upon its arrival at FAM, in addition to assisting with the installation. Curatorial Intern Selena Shabot lent her talents behind the scenes in countless ways throughout the semester. And Director of Marketing and Community Relations Eugene Finney deftly built platforms and pedestals, and, together with special guest preparator Matt Oates [a true installation dream team], hung this show with a cool, calm head despite the threat of swirling snow squalls outside. Thank you for all your efforts to make naturetech come to life!

Once again, Director of Education Laura Howick designed a clever and captivating Learning Lounge experience for all FAM visitors to enjoy. This special experience is made possible by funding from The Clementi Family Charitable Trust for which FAM is truly appreciative. naturetech is supported in part by generous gifts from Heat Trace Products, LLC, in Leominster, MA; Headwall Photonics, Inc. in Fitchburg, MA; and Paul Bryan, Inc. in Concord, MA. Thank you sponsors!
introduction

*naturetech* spotlights three Massachusetts artists – Nathalie Miebach (sculpture), Cristi Rinklin (painting), and Michelle Samour (mixed media) – whose colorful, data-driven artworks are fueled by collisions of art, nature, science, and technology. Miebach, Rinklin, and Samour each employ unique, abstract visual vocabularies that prompt questions about the natural world and offer exquisite, awe-inducing ways to observe, organize, depict, and understand it.

*naturetech* is arranged to feel like three small solo shows in one big, exuberant exhibition. To accomplish this goal, FAM divided its New England contemporary art galleries into discrete spaces – one for each artist. The hope is that visitors will enjoy an intimate and immersive encounter with the individual works of Miebach, Rinklin, and Samour while making larger *naturetech*-inspired connections across the exhibition.

This catalogue aims to mimic the layout of the exhibition for our readers, giving each artist her own set of pages and distinct design. While nothing beats an in-person experience of art, we hope you will enjoy this record of the exhibition packed with images, text, and even quotes from the artists themselves.
Nathalie Miebach’s turbulent artworks are rooted in real-world scientific research and a fascination with our nuanced relationship to weather. Whether on the North Pole or in Central Massachusetts, people always have a story about a storm. Miebach untangles our connection to weather by translating climatic data derived from high and low-tech instruments, as well as personal observations, into three-dimensional sculptures and musical scores. Her forms transform numerical statistics normally relegated to two-dimensional charts, maps, and graphs into exhilarating abstract objects that burst with clues about weather patterns, hurricanes, storms, blizzards, changing tides and temperatures, and whipping winds. Woven like baskets from reed and rope, and punctuated with multicolored paper, Miebach’s sculptures are dizzying, beautiful, clever, and complex. They are artworks and tools, creative expressions and authentic records that combine the methodologies of astronomy, ecology, and meteorology with those of art.
Changing Waters is a sweeping wall installation that takes as its subject meteorological and oceanic interactions in the Gulf of Maine. To create this artwork, Miebach gathered numerical data and information from weather stations along the coast and special buoys placed by the National Oceanic and Atmospheric Administration and Gulf of Maine Ocean Observing System. She uses this research to explore, in the words of the artist, “seasonal variations of marine life” and aspects of “rich New England fishing history.” On the wall of this gallery, Miebach maps out her artistic translations of these data points in the Gulf of Maine, complete with a sculptural legend, so that viewers may better trace her vividly hued logic. The large, hanging structures, reminiscent of actual buoys, represent Miebach’s examination of “more specific biological, chemical, or geophysical relationships between marine ecosystems and weather patterns.” True of all Miebach sculptures, every single detail comprising Changing Waters can be traced to actual meteorological moments and weather events.
Part of Changing Waters, Northeast Channel Buoy focuses on data collected above and below the water as recorded in a single calendar year by NOAA Buoy 44024 – located where the cold, nutrient rich waters of the Northeast Channel enter the Gulf of Maine. The dragon that flows through the sculpture represents the Labrador Current.
Part of Changing Waters, Layered Life looks at all the different layers of marine life present in the Gulf of Maine from the surface of the sea down to the ocean’s depths.
In October of 1991, an event to which meteorologists still refer as The Perfect Storm entered the Gulf of Maine. This Perfect Storm was the result of 3 systems coming together: a low-pressure system hovering over Nova Scotia, an energy system coming from the Great Lakes, and a dying Hurricane Grace just off Bermuda. These systems combined to form an enormous Halloween Storm, which eventually developed into another Hurricane. Miebach visually articulates the elements of this freakish weather event through a sculpture and a related musical score, which also directly reference the sinking of a commercial fishing vessel, the Andrea Gail, and the loss of her crew in that Perfect Storm.

The blue (Hurricane Grace) and natural (Halloween Storm) bands act like timelines on which data from weather stations in St. John’s, Gloucester, Sable Island, and offshore buoys of the specific storm systems are translated.

“...
Miebach’s score is comprised of three separate acts, each derived from specific weather data. Miebach provides descriptions for each act, in her own words, to set the scene.

Act 1 takes place on the Grand Banks fishing grounds off of Newfoundland. The Andrea Gail is out on a fishing trip. After a poor catch, the ship heads out for the Flemish Cape, hoping for one last catch before the storm. The weather is fine, though radio messages warn them of the impending storm. On Oct 27th, the captain decides to return to Gloucester and steers the vessel towards home.

During Act 2, the Andrea Gail finds itself deeper and deeper in oceanic conditions it can no longer navigate through. A complex set of meteorological events leads to energy from Hurricane Grace being sucked up by the Halloween Storm, which veers back into the Gulf of Maine with renewed power. In the morning of Oct 28th, the wind shifts from NE to SE, which is an ominous sign that the storm is coming. The last radio contact with the Andrea Gail comes at around 6pm on Oct 28th. While it has never been confirmed, it is believed that the ship sank somewhere between midnight and 2am, about 180 miles off Sable Island. During that time, wave heights of 75 – 100 ft and sustained winds 80 –110mph were reported.

Act 3 is written from the perspective of the Andrea Gail’s crew members’ families and friends. The ship was reported missing after being 2 days overdue. What imbues this section of the score is the desperate waiting for some sort of miracle, as the grim reality slowly begins to sink in.

Imbedded in Act 3 is an old fishing song called “The Ghostly Crew” which dates back to the 1900’s and tells the story of the sinking of the Johnston, a vessel that was anchored on George’s Shoal. The Haskell, a ship from Gloucester was anchored nearby, when a sudden storm in the night ripped her cables. The Haskell rammed the Johnston and sank the ship and crew in a matter of minutes. The Haskell returned to Gloucester with barely a scratch. It is said that every time the Haskell went out fishing from that time on, it would be visited at night by a crew of ghostly sailors who came onto the ship and prepared the vessel for fishing. Eventually no seamen was willing to fish on the Haskell anymore as the rumors of “The Ghostly Crew” became more and more frequent. The vessel was eventually retired.
To Hear an Ocean in a Whisper explores biological, meteorological, and physical processes that are the foundation of the rich marine life and diversity found at Georges Bank in the Gulf of Maine. This is a collaborative project with Jonathan Finke, that is part of the Synergy Program, an experiment in art/science communication, in which visual artists have been paired with ocean scientists from Massachusetts Institute of Technology and the Woods Hole Oceanographic Institution to render complex scientific concepts accessible to the public through art. Jonathan Finke is an acoustic engineer and oceanographer who uses sound to study the biological processes in the water column of Georges Banks.

I used Finke’s acoustic data to illustrate the presence of krill in the water near Georges Bank and extrapolated the data in time and space to look at the larger cycles of biology, currents, temperature variations, tidal patterns, and weather changes that affect krill. The various amusement park rides in my work interpret the larger biological, seasonal, and geophysical cycles and patterns associated with the krill. The roller coaster is the Labrador Current; the Merry-Go-Round shows how krill data fit into larger seasonal variations of air and water temperature, salinity, currents, wave height, and solar azimuth. The Ferris wheel shows the diurnal cycle of krill. The swing ride shows the tidal patterns of the Bay of Fundy and nearby whale sightings. The spider ride shows seasonal changes as well as information from the Northeast Channel Buoy, located at the entrance of the Gulf of Maine where the Labrador Current enters. All of the rides together construct a map of Georges Bank and nearby coastal features.
To create *Temporal Warmth: Tango Between Air, Land and Sea*, Miebach spent eighteen months collecting temperatures at Herring Cove Beach on Cape Cod.

This somewhat mundane activity of sticking the thermometer into the sand, water or air, soon became a type of game in which I would try to guess which of these variables would be the warmest. All three have varying efficiencies in storing heat, which articulate themselves over time. This daily dance of temperature became for me the invisible pulse of the place from which to gauge the changes I noticed in the flora and fauna.
Detail of: Temporal Warmth: Tango Between Air, Land and Sea 2013
In this sculptural composition written for two musicians, Miebach presents sets of information regarding two different blizzards: one from February of 1978 and a second from December of 2007. Both storms wreaked havoc on roads in New England, creating gridlock and trapping travelers on highways with nowhere to go. Miebach uses data derived from barometric pressure, temperature, dew point and wind to generate the notes of her storm-based score.
Recently, I have begun translating weather data collected in cities into musical scores, which are then translated into sculptures as well as being a source for collaboration with musicians. These pieces are not only devices that map meteorological conditions of a specific time and place, but are also functional musical scores to be played by musicians. While musicians have freedom to interpret, they are asked not to change the essential relationship of the notes to ensure that what is still heard is indeed the meteorological relationship of weather data.

During the exhibition, visitors to FAM had the opportunity to listen to two examples of Miebach’s musical collaborations: External Weather, Internal Storm by Elaine Rombola on piano (around 2 minutes long) and Hurricane Noel by the Axis Ensemble (violin, piano, cello, clarinet, bass) featuring Elliot Cless, Philip Acimovic, Glenn Dickson, Jason Coleman, and Sid Richardson (about 10 minutes long). While listening, individuals were also able to browse the pages of Miebach’s Weather Scores notebook.
The Loneliness of a White Knuckler is predominantly about a long, frightening and lonely commute home during a fierce winter storm that resulted in major gridlock around the Boston area until deep into the night. While the meteorological conditions were not as severe, the suddenness of the storm’s arrival combined with the chaotic human behavior it generated brought back memories of the Blizzard of 1978. The score combines meteorological data of both the Blizzard of 1978 (February 6–8, 1978) and December 12, 2007.
This score relies upon barometric, wind, and temperature data from two weather stations (Hyannis, MA and Natashquan, Quebec) and one offshore buoy (George’s Bank), to track the path of Hurricane Noel as it entered the Gulf of Maine during November 3-5, 2007.
Cristi Rinklin's billowing, swirling, smoldering, atmospheric paintings are inspired by portrayals of landscapes (including rivers, mountains, clouds, smoke, and fog) throughout the history of art as well as those found in wallpaper, video games, and virtual realms. In every case, the artistic landscape is a constructed space of questionable authenticity when compared to the natural world. Rinklin both exposes and embraces this artificiality. She fuses and manipulates appropriated landscape imagery beyond recognition and uses the resulting digital collages as source material for her mesmerizing paintings. Rinklin's new, uncharted, improbable terrains live in moments that hover between fantasy and reality, premonition and memory, conception and extinction.
The landscape is a consistent motif throughout my work, but rather than faithfully representing the natural world that surrounds us, it becomes an uninhabited, detached fragment that floats in an ambiguous, abstract space. This imagery is sourced via a process of sampling and appropriation from details of paintings, scenic wallpapers, Google image searches, and collected photographs. The combination of tangible realism, abstraction, and ambiguity are intended to disrupt the viewer’s ability to ground or position himself in any particular time or space. The sense of an uncertain future that is symptomatic of our contemporary life reflects this experience of displacement and detachment. While the notion of a post-human world may have disturbing implications, I also find poetic beauty in the idea that life and consciousness may exist outside of human experience, and that all this will persist, with or without our participation.

“Ecstatic Beatification, 2005"
Ascension/Expulsion, 2011

Diorama, 2010
The paintings in this exhibition were created at different times over the past several years. While all of these works have been previously exhibited at different venues, and in different groupings, they have never before been shown all together. FAM is delighted to be able to present our visitors with so many of Rinklin’s paintings in the same room, for the very first time, ever. Enjoy!
Detail of: Specter 1, 2, and 3 2014
Michelle Samour’s multi-media artworks and vibrant, prismatic tinsel paintings are anchored in an affinity for Victorian-era instructional charts, specimen collection, and scientific observation. Samour is drawn to the order and shimmer found in the natural world (single-cell protozoa about to divide, butterflies with symmetrical wings, or beetles with iridescent bodies), and the novel ways our technologies make such data and imagery accessible to us today. According to the artist, we live in an age “in which computers and phones have become virtual wonder cabinets of visual and textual information, much as the framed collections and illustrations that densely punctuated the walls of the Victorian parlor.” Samour’s eclectic artworks draw parallels between the penchant for collection and consumption in the Victorian age and our ever-present contemporary desires to access, pin, and post images of nature via our digital tablets and glowing screens.
Drawn and Mirrored contains both mirrored images and the original images from which they were created. Each completed image is again repeated and mirrored, so that two or more of each image appear in different orientations on the wall. The white frames and chairs in the work place the information in a contemporary context, ghosting the furnishings and display structures of the Victorian age. Two 'indexes', whose size and proportion are equivalent to the educational classroom chart ubiquitous during this time period, contain all of the images in the installation.
Samour’s interest in the Victorian parlor is on full view in this small gallery installation. She says of this work:

“The use of glass to protect and display collections has a long history, and was particularly ubiquitous in the Victorian age. The parlor was the primary gathering place in the Victorian home and a showcase for possessions and collections. Family and guests convened in the parlor to play games, converse, read, and play music. Specimens of butterflies, iridescent beetles, shells and taxidermy birds were decoratively displayed under bell jars, in shadow boxes, in freestanding fireplace screens, and under glass tabletops, and were often a catalyst for educational conversation. Today our conversations are often between our computers and ourselves; the digital display a stand-in for actual specimens and sometimes for humans themselves.”
To generate the contours of her abstract, organic forms, Samour begins with a basic non-objective drawing, then mirrors that form along a central axis. Variations on these forms are repeated in different ways throughout Samour’s section of the exhibition, in different colors and at differing scales. Together, they reference aspects of the Victorian era’s embrace of nature, curiosity, discovery, and observation while also conjuring twenty-first century connections to genetics, cloning, and digital manipulation.

Aggregation N.6
2012
Nathalie Miebach explores the intersection of art and science by translating scientific data related to meteorology, ecology, and oceanography into woven sculptures and musical scores and installations. Her main method of data translation is that of basket weaving, which functions as a simple, tactile grid through which to interpret data into 3D space. Central to this work is her desire to explore the role visual and musical aesthetics play in the translation and understanding of complex scientific systems, such as weather.

She is the recipient of numerous awards and residencies, including a Pollock-Krasner Award, TED Global Fellowship, Massachusetts Cultural Council Fellowship, and a recent nomination for the World Technology Award, Brother Thomas Award, and Women to Watch Smithsonian Award. She did her undergraduate studies in Chinese and Political Science at Oberlin College. She received an MFA in sculpture and an MSAE in Art Education from Massachusetts College of Art. Her work has been shown in the US and abroad and has been reviewed by publications spanning fine arts, design, and technology. She lives in Boston.

www.nathaliemiebach.com
Cristi Rinklin received her MFA from the University of Minnesota, Minneapolis in 1999, and her BFA in painting from Maryland Institute, College of Art in 1989. She has exhibited her work in galleries and museums throughout the United States, as well as venues in Rome, Florence, and Amsterdam. Rinklin is represented by Steven Zevitas Gallery in Boston, where her recent solo exhibition, Displaced was received with much critical acclaim. She was recently featured in a solo installation entitled Diluvial at the Currier Museum in Manchester, New Hampshire, which received favorable reviews in the Boston Globe, the Boston Phoenix, and the Concord Monitor. Her work is currently featured in the three-person exhibition naturetech at the Fitchburg Art Museum. Her paintings have been included in the 2010 and 2012 Northeast edition of New American Paintings. Rinklin is the recipient of grants from the Massachusetts Cultural Council, the Berkshire Taconic Artist’s Resource Trust and the Jerome Foundation Fellowship, and has been a Visiting Artist/Scholar at the American Academy in Rome. She is currently an Associate Professor and Chair of the Visual Arts Department at the College of the Holy Cross, in Worcester, MA. Cristi Rinklin lives and works in Boston, MA.

www.cristirinklin.com
Michelle Samour is a multi-media artist whose installations, drawings and handmade paper works explore the intersections between science, technology and the natural world. Samour’s exhibitions include the deCordova Sculpture Park and Museum in Lincoln, MA; the Museum of Modern Art in Strasbourg, FR; the Kohler Art Center in Sheboygan, WI; the Houston Center for Contemporary Craft in Houston, TX; the Racine Art Museum, WI; and the Rose Art Museum at Brandeis University, Waltham, MA. Samour has received grants from the Massachusetts Cultural Council (most recently as a 2014 Fellow in Drawing), a Society of Arts and Crafts New England Artist Award, and grants from the Cushman Family Fund and the Andrew W. Mellon Foundation to study historic papermaking in France and Japan. She has held residencies at the Banff Centre in Canada and at PR.I.N.T. Press in Denton, TX. Samour’s work has been featured in Surface Design, FiberArts and Hand Papermaking magazine, and is included in public and private collections including the deCordova Sculpture Park and Museum, International Paper Company, and the Meditech Corporation.

Samour resides in Boston, Massachusetts and is on the faculty of the School of the Museum of Fine Arts, Boston (SMFA).
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