



# FEMEETING

WOMEN IN ART,  
SCIENCE AND TECHNOLOGY

BOOK OF  
ABSTRACTS 2023

**Book of abstracts.** FEMeeting: Women in Art, Science and Technology 2023.

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# PREFACE

The program of **FEMeeting 2023 “FEMeeting: Women in Art, Science and Technology”** includes 56 presentations, by 68 speakers from 7 different countries as well as other activities to encourage communication among its participants. Taking place from **24 to 30 July 2023**, in the **Town of Taos – New Mexico, United States**, FEMeeting: Taos 2023 is organized by FEMeeting in collaboration with Agnes Chavez, founder of STEMarts Lab (El Prado, NM) and Marta de Menezes currently a Fulbright Scholar Program award 2023 at the University of New Mexico.

FEMeeting is driven by the desire to develop and promote a more direct collaboration at the level of artistic and research projects between all individuals who identify themselves as Women, independently of their sex. In this sense, FEMeeting events aim to disseminate projects being undertaken by women worldwide and, as a result: to contribute to the development of art-science research methodologies and to the growth of cooperation strategies that can increase knowledge sharing and bring communities closer. Among FEMeeting distinguishable objectives there are: (a) a strong personal support through instant internet communication between women doing research work (in the broadest sense of the term) in art, science and technology, (b) the encouragement towards the formation of local nodes to support research and artistic creation developed to enable a wide network of direct communication among them and encourage trust, and c) the incentive to uncover and achieve legitimization of women’s work through publishing, academic and other formats. Besides the above, this FEMeeting gathering in Taos, New Mexico is an opportunity to address community issues such as all women’s health, security, diversity and sustainability, in the framework of international rights on gender equality and women empowerment, and especially to uncover the activities of indigenous women and women working with indigenous peoples and cultures.

# ABOUT FEMEETING

Launched in 2017, the idea behind “FEMeeting: Women in Art, Science and Technology” was orchestrated by the Portuguese artist Marta de Menezes and scholar Dalila Honorato. It started as a conference (2018 & 2019) in which, to facilitate personal networking, most of the program is organized as closed sessions, only for the conference speakers, but the program also includes, a few public sessions that aim to encourage participation and attendance among all individuals interested in the topics of the conference independently of their gender. With COVID-19 and the cancellation of the FEMeeting 2020 gatherings in Troy and Paris, FEMeeting reshaped its call for participation to its community and launched “FEMeeting: WEB” dedicated to the presentation of digital contributions reflecting personal responses to the pandemic. These works were presented in the FEMeeting event “Antibodies” (May 2020) and in the FEMeeting event for Kepler’s Gardens at Ars Electronica Festival (September 2020). Between March 2020 and November 2021, during the multiple lock-downs around the world, Marta and Dalila hosted what became known as “Teapot Chat”, a periodical casual and unstructured online conversation between members of the FEMeeting community. Additionally, in the Spring of 2021, was launched “Sister Labs” in partnership with Ectopia Experimental Art Laboratory (PT), Nature Lab (US) and Incubator Art Lab Studio (CA), where FEMeeting members addressed the community of women in art, science and technology an invitation to their lab spaces. Finally, in Summer-Fall 2021, two small gatherings were conducted: one in the Catskills, NY (US) hosted by the Three Phase Center and the other in Berlin (DE), hosted by the Art Laboratory Berlin. In September 2022, after three years, FEMeeting organized its third international conference in Portugal. This Summer two conferences are organized in collaboration with the nodes in Berlin and Taos, New Mexico. **Welcome to FEMeeting 2023!**

**ABSTRACTS**

**FEMMEETING**



## Home is Where the Maqlouba is: An Overview of a Bioart

Palestinian-Canadian artist Jude Abu Zaineh uses a multidisciplinary approach to discuss nostalgia, home, and place-making. Maqlouba (a traditional Palestinian dish) is at the heart of her work in an attempt to understand transnationalism and cultural identity. Abu Zaineh's research into immigrant food practices allows her to further explore what it means for Palestinians to exist in a migratory space of "in-betweenness"; attempting to conform and adapt to the cultures and traditions of their new homesteads while maintaining a connection to their Palestinian heritage and identity.

Her socially engaged work examines the use of traditional Palestinian foods as an alternate platform by which people can enter an informal conversation around personal and collective stories, memories and shared experiences surrounding cultural, historical, political discourse, and community. Home is Where the Maqlouba is: An Overview of a Bioart is a retelling of a project started in Windsor, Canada (2018) at the INCUBATOR Lab, and the impact of this multidisciplinary approach. In the workshop, participants were introduced to Maqlouba, an overview of bioart within the discourse of contemporary art, and followed approaches similar to Abu Zaineh's own practice in the bioart lab to produce their own petri-dish artworks using leftovers from their Maqlouba lunch.

### Abu Zaineh, Jude

Jude Abu Zaineh is a Palestinian-Canadian interdisciplinary artist and cultural worker. Her practice employs art, food, and technology to investigate meanings of culture, displacement, diaspora, and belonging. She examines ideals of home and community while working to develop aesthetics rooted in her childhood and upbringing in the Middle East.

Abu Zaineh is the recipient of the 2020 William and Meredith Saunderson Prizes for Emerging Artists, and was one of the first selected artists to participate in a collaborative residency with the Ontario Science Centre and MOCA Toronto (Canada). She has presented her work at a number of cultural institutions including Cultivamos Cultura, São Luis, Portugal; Museu de Arte, Arquitetura e Tecnologia, Lisbon, Portugal; Centro de Cultura Digital, Mexico City, Mexico; SVA, NYC, USA; Institute of Contemporary Art

San Francisco, USA; Forest City Gallery, London, Canada; Art Gallery of Windsor, Canada; and Centre Culturel Canadien, Paris, France. Forthcoming works showing at Museum London x Media City Film Festival, London, Canada; Artcite, Windsor, Canada; City of Windsor x DWBIA, Windsor, Canada; and Museum of Glass, Washington, USA.

Abu Zaineh received an MFA from the University of Windsor (Canada) and is currently a PhD Candidate (ABD) in Electronic Arts at Rensselaer Polytechnic Institute (NY, USA) as a RPI HASS Fellow and SSHRC Doctoral Fellow.

She maintains an active studio practice between upstate NY, USA and Windsor-Essex, Canada.

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## Symbiotic Mitochondria: Towards a Collaborative Feminist Praxis

This presentation reflects on a series of participatory workshops that took place in 2022-2023, involving butoh and culturing of bacteria to trace the development of a collaborative feminist research-creation praxis centred on symbiosis – a long-term collaboration between humans and non-humans. The workshops were developed as part of a collective project entitled Mitochondrial Ontologies (2019-to date). In this work, we use mitochondria as a metaphor to trace maternal lineages of human and non-human bodies across time to reference information flows across ecosystems, machines and geographies. Drawing from Lynn Margulis' (1986) endosymbiotic theory of evolution, which emphasizes cooperation rather than competition, nine artists met, practiced butoh and shared their experiences growing bacteria from their bodies and other domestic spaces over six months. The workshops aimed to build a collective repertoire of butoh-inspired movements to choreograph a live performance to generate audio and visual records to develop an AI-driven video installation as the basis for Mitochondrial Ontologies. In parallel, each participating artist recorded audio reflections, images of growing bacteria, poetry, and movements to develop other choreographies. These resources were used to create additional projects and foster collaborations between the participants. The workshops have thus become rich environments, hosts of energies, affects, ideas and resources that have inspired symbiotic interactions between the participants.

Thinking through these experiences via Silvia Citro's concept "cuerpos significantes" (2009), an embodied and self-reflexive approach to research-creation, and Sondra Fraleigh's theorizations of butoh dance as "global alchemy" (2010) which points to butoh's capacity to fuse, transform and integrate disparate elements and cultural traditions, we reflect on the collective experiences that unfolded from these workshops. We ultimately describe the emergence of an embodied, collaborative, intergenerational, transdisciplinary, cross-cultural feminist research-creation praxis and theorize on its potential to imagine futures in which more situated and sustainable forms of cohabitation between humans and non-humans might be possible (Haraway 2016, 1988).

### **Aceves Sepulveda, Gabriela**

Gabriela Aceves Sepúlveda is Associate Professor and director of cMAS in the School of Interactive Arts and Technology at Simon Fraser University. She is the author of the award-winning book "Women Made Visible: Feminist Art and Media in post-1968 Mexico" (2019). Her research and artistic practice centers on the histories of feminisms, women, art and technology, transnational networks of artistic exchange, research-creation and Latin American art. Her interactive installations and collaborative projects exploring the body as site of cultural, gendered and bio-political inscriptions have been exhibited internationally since 1990s.

### **Santos, Alessandra**

Originally from Brazil, Alessandra Santos is associate professor of Film Studies at the University of British Columbia. She specializes in Latin American cinema, literature and culture. Her interest areas are utopias, technology, embodiment, performance, gender, race and decolonial studies. Her publications include a book on transnational/Mexican cult film *The Holy Mountain*; two co-edited interdisciplinary volumes on utopias in the Americas, and her current project on Afrofuturism in Brazil. Her art practice entails performance and butoh-inspired movement. Trained in collaborative and public interventions, she participated in performance companies and artists collectives in Los Angeles and Vancouver. She is interested in art and education that envision possibilities for radical examinations of life and mediations on social practice.

### **Zinovieff, Freya**

Freya Zinovieff underwent her MFA at University of New South Wales. She holds a first class honors degree from Cambridge School of Art at Anglia Ruskin. Her research looks at how sound can mediate relationships to landscapes in the Anthropocene age. She is interested by the potential for digital audio technologies to reimagine the contrary temporal narratives of digital media, deep, and cyclical conceptualizations of time, and how sonic art practices, such as graphic notation and sonic mapping can explore the junctions of human history and geo trauma.

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## **The Ritual of Sacrifice in the Lab - using bacteria as machines**

This work reflects on the commodity of the laboratory procedures, the automatism employed during them towards a living organism and, how organisms can be used simply as machines to deliver products to the human scientists. These reflections were inflicted upon me during the lab work I performed for *Semina Aeternitatis* [1], a collaborative project with the bioartist Margherita Pevere.

*Semina Aeternitatis* took a hybrid approach on immortality, by entwining human memories with bacterial inheritance. The chosen bacteria were *Komagataeibacter rhaeticus*, as they wrap themselves in a dermic biofilm, a tangible material that would be later exhibited as a sculpture. In an unexpected turn of events, we spent 90% of the time in the lab, interacting with a completely different organism, namely *Escherichia coli*.

For each step of the way, *E. coli* became my reliable machine providing me with the products I needed during the process. However, a machine that is alive, and moreover, a machine that is as well part of the human microbiome, and by extension part of me. Between the laboratory walls, life was not anymore, a shared experience with the organisms around me, but rather subject to the rituals inscribed in a bio-protocol.

More effective than the equivalent artificial techniques, *E. coli* can be used for a variety of lab procedures. In a ritualistic manner, using *E. coli* involves growing a fresh culture, modifying it genetically, nurturing it overnight and then destroying it to extract the needed products *E.*



coli made in the process. These products would then be purified, measured, and combined. If needed, E. coli would be again used to ligate the combined molecules, and then again to amplify them.

In this work, I present the questions that ruminated my mind during my laboratory work. Looking at the history of the human society, I propose a series of guidelines and principles for an ethical interaction between the humans and the non-human living machines. Finally, I draw a roadmap towards a more self-deterministic micro-universe in the lab.

### **Alistar, Mirela**

Working at the intersection of technology and art, Mirela Alistar (assistant professor, ATLAS Institute) is passionate about interfacing with living matter, specifically with the micro-organism part of our being and our environment. Her work is a continuous play with biology, engineering and art to explore the lost connection of the humankind with all other kinds. Mirela is an active contributor to the DIYBio movement, having led and co-founded community wetlabs. In this context, she organizes interactive performances, art installations and open workshops, in order to engage the public in direct interaction with living materials (e.g., bacteria, viruses, fungi). Her work has been shown at Kunsthalle Rostock, ACUD, MEWO Kunsthalle, Museum of Boulder, BMOCA, Click Festival, etc.

Mirela received her PhD from the Technical University of Denmark in 2014, and until 2018, she was a postdoc in Patrick Baudish's lab at Hasso Plattner Institute in Germany. Mirela's work is published in top-tier journals and conferences (IEEE TCAD) and has been demonstrated at venues such as IEEE ESWeek and Molecular Communications. Mirela has served as a guest editor for Current Biotechnology journal (CBNT) and as a reviewer for venues such as Applied Materials and Interfaces, DATE, TCAD, ToDAES, NanoCom and UIST.

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## **Touch capacitive synthesis community building exercise**

This presentation explores the potential of using a DIY analog conductive synthesizer to generate a collaborative sound performance by creating contact between participants with their bodies.

Through this group exercise, participants will connect as a circuit to create intervals of silence and noise, generating a unique and dynamic sound experience.

The proposed presentation aims to demonstrate the possibilities of using electrical conduction to create a collaborative sound performance that engages participants in a shared experience of sound creation. The presentation will begin with a brief introduction to the concept of using a DIY analog conductive synthesizer and how it works.

Following the introduction, the participants will be invited to link together by making contact with each other's bodies, forming a human circuit. One end of the linked participants will touch the cathode of the synthesizer, while the other end will touch the anode. As participants connect and disconnect, the circuit is completed and broken, resulting in a dynamic sound that is shaped by the movements and interactions of the participants.

In conclusion, this presentation aims to facilitate collaborative sound creation and explore the possibilities of participatory, touch capacitive performance. By engaging participants in a shared experience of sound creation, this presentation aims to create a collaborative and inclusive experience that fosters a sense of community and connection through the exploration of sound and technology.

### **Almukhametova, Angelina**

Angelina Almukhametova is a US-based artist whose work investigates cybernetics and technoculture through digital and analog technologies which are set in conversation with each other. Her research, deeply rooted in experimentation, manifests as sculptures, custom built softwares, performances, electronics, and installations. She holds a BFA in Art and Technology from the School of the Art Institute of Chicago (2020) and has exhibited work and performed in New York City, Chicago, Houston, Zürich, Iceland, and Detroit (forthcoming). She has led workshops at the School of the Art Institute of Chicago and the Experimental Sound Studio in Chicago. In 2022, she was a hacker in residence at the Swiss Mechatronic Art Society in Zürich, Switzerland. She currently works as an Educational Technology Specialist at Lewis & Clark College in Portland, Oregon.

## All quiet on the Western Front

Moving back to my hometown in Colorado has led me to become involved in the mountainous open spaces as a volunteer naturalist. I've discovered the city has developed extensive science and cultural programming aimed at creating meaningful experiences of appreciation and caretaking while actively hiking through the foothills and in-town natural areas.

I've looked particularly at the ways biotechnological practices can interface with cultural and ecological issues in these western landscapes. Two programs connected to local research involve reintroducing the black-footed ferret, thought to have been extinct, and using assisted reproductive techniques to reestablish buffalo herds with genomes closely matching the original keystone species of the great plains.

This talk will address the ways cloning, assisted embryo transplantation and the re-integration of historic species into native ecosystems can be understood as a type of artistic practice: one involving the connecting of past-to-future while simultaneously designing within present contexts and value systems; how melding artistic and scientific envisionment can be used as a tool for embodied speculation; and how creating a trajectory of selective genomes can redesign and reintegrate ecosystems along a continuum of possible outcomes.

Questions as to what characterizes "natural" vs manipulated tissue culture samples or cell lines, and the ethical implications/interpretations of this difference will be examined. I'll look at what the concept of integral genome might mean as it relates to "nature's right to integral restoration." This also involves looking at perceptions of acceptance by the general public, how to develop meaningful educational formats that allow for access and informed decision making, and how the cultural, aesthetic and biotechnological understanding of the "use-value" of ecological restoration influences re-design practices.

### Angleton, Carolyn

Carolyn Angleton is a Bio Artist residing in Colorado, USA. She comes from a Fine Arts background, having served as a lecturer in feminist and multi-cultural critical art theory at CSU Fresno, CA, and as a professor of sculpture and drawing at Sierra College, in the foothills of northern California. After returning to school in biotechnology she co-founded the art/biotech cooperative named ARC/BAC at American River College in Sacramento, CA, in partnership with two microbiologists. She is a co-organizer for the

MIT Global Community Biosummit, and develops the Bio Art and Design programming for their yearly conference. She speaks on issues of the ethical and aesthetic potentials of synthetic biology, designs art/sci curricular protocols that integrate creative practices with research methodologies, and organizes/moderates panels on the global community biolab movement. Since returning home to Colorado she has become a volunteer for the city's natural areas, which promote cultural and scientific programming in nature, and continues to research and write within the intersection of biotechnology, ecology, ethics and creative art practices.

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## Storytelling in the fibers of living anatomies: more-than-human mythologies, synthetic biology, and biodiversity loss

Italian artist Franco Vaccari defined the concept of technological unconsciousness, stating that machines do not just see for us, but also express new and collective intellects; technology is increasingly the lens through which the world is shaped. In this light, I believe it is pivotal to include biotechnologies as a shaping force in the realm of emergent technologies. Defined as technologies that use biological systems, biotechnologies are as ancient as fermentation. Yet, since DNA manipulation, there has been such a great acceleration that the XXI century "has been dubbed the Biological Century" (Da Costa et al, p. XIX). As the (bio)technological unconsciousness remains under the surface, it is the role of the scholar and artist to investigate it. The creative and critical exploration of biotechnology and synthetic biology is an unprecedented tool to engage what Morton defines as hyperobjects: climate change, Earth itself, and the end of it. He states: "We all contain water in about the same ratio as Earth does. [ . . . ] We are poems about the hyperobject Earth" (51); if we are poems for the planet, we are also poems for the climate warming that we are inflicting on it. We are the problem and the solution, as are our technologies. Moreover, if "It matters what matters we use to think other matters with" (Haraway, 12), what happens when we use the same cells, processes, and molecules we are made of as the media to tell stories and ask

critical questions that contribute to a new post-humanist world?

This research project, at the initial stage, investigates the landscape composed of avant-garde explorations of biotechnologies during a time of unprecedented biodiversity loss. The paper outlines how creative, poetic, and engaging stories, rooted in the fibers of living anatomies, can make space for more-than-human mythologies and epistemologies. In doing so, extensive research of current creative practices, my own and the ones of many artists globally, will be investigated, with a focus on examples that blend art with emerging genetic biotechnologies, microscopic collaboration in the art laboratory and biology studio for macroscopic storytelling.

### Arduini, Viola

Viola Arduini is an Italian artist, researcher, and educator who explores the relationship between humans, the ecosphere, and technology. She uses a variety of media, from photography to computer science, from biology to writing, to create paths that connect art to science, and the human to the more-than-human. Viola received a Bachelor of Arts from NABA New Academy of Fine Arts, Milano, (Italy), a Master of Arts in Documentary Photography from the University of South Wales, Newport (United Kingdom), and a Master of Fine Arts in Art & Ecology from the University of New Mexico in 2019. Her work has been included in group exhibitions in the US and Europe and she has been the recipient of various grants and scholarships. Recently she has been an artist in residence for the Revolution Residency at the Santa Fe Art institute in 2022 and she is currently a Shared.Futures 2023 fellow at UNM. Viola works as an art educator and administrator in New Mexico and collaborates with national and international networks to expand dialogues engaging art and science.

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## Dream Clinic, The Department of Planetary Futures

Check in at The Department of Planetary Futures Dream Clinic, where clinicians will collect, record, and process your dreams into a collaborative narrative to build a collective practice for the future.

In *The Lathe of Heaven*, Ursula K. Le Guin wrote “Everything dreams. The play of form, of being, is the dreaming of substance. Rocks have their

dreams, and the earth changes.” The Department of Planetary Futures Dream Clinic asks: If the dreams of rocks can change the earth, what can happen when people dream together?

In times of social disparity, attacks on bodily agency and abortion rights, economic strife, global pandemic induced isolation, climate threat and instability, it is important now more than ever to come together as a collective body of voices to dream the future we want and need for the health of our society and the planet we live on. adrienne maree brown wrote in *Emergent Strategy: Shaping Change, Changing Worlds*, “Science fiction is simply a way to practice the future together. i suspect that is what many of you are up to, practicing futures together, practicing justice together, living into new stories. It is our right and responsibility to create a new world.”

The Department of Planetary Futures (DPF) is a fictional entity through which multispecies collaborative experiments are employed to investigate the interrelationships humans have with other life forms and each other. At the heart of these endeavors is a desire to connect to the surrounding world and its organisms with care and humility; to learn from, engage with and speculate possible livable futures.

### Brickman, Jacklyn

Jacklyn Brickman is a visual artist whose work entangles science fact with fiction to address social and environmental concerns by employing natural objects, processes, and technology. Her work spans installation, video, and performance, with a special interest in cross-disciplinary collaboration and social engagement. Fellowships include The National Academy of Sciences, Chaire arts et sciences, Jentel Foundation, National Endowment for the Arts, and Erb Family Foundation. She has exhibited her work in the US, Canada, France, India, and Slovenia. Brickman resides in Kalamazoo, Michigan and is Assistant Professor of Kinetic Imaging at Western Michigan University.

### Logan, Kathryn Nusa

Kathryn Nusa Logan is an interdisciplinary artist employing experimental art methods to imagine alternative relationships between humans, technology, and the natural world. Ranging across contemporary dance, film and video, music and sound design, multi-media installation and performance, Logan has shared her work internationally in Scotland, Cyprus, Sweden, and Brazil and across the U.S. in venues including the

Lincoln Center Clark Studio Theater, Brooklyn Academy of Music (BAM), Movement Research, The Wexner Film/Video Theater, and Center for Performance Research. Through her work, she is imagining more sustainable ways of being in the world, and practicing them in performance and exhibition. She lives on Lenapehoking land in New York City.

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## The Piñon Project

The Piñon Project explores the ecological and cultural resonance of piñon pine (*Pinus edulis*) in New Mexico and contends with its potential extinction due to climate change and the co-extinction of its vital mycorrhizal fungal partner, *Geopora pinyonensis*. Centering the nuances of co-extinction, or plant anachronisms, this project connects emerging science with zine-making, multimedia collage, mythmaking, installation, and piñon seedling germination to advocate for community-supported change and repair. This project is an emplaced, tangible, community science approach to the onslaught of grief and uncertainty experienced when a vital member of our ecological community begins to suffer.

Piñon is a vital species of New Mexico's ecology and culture, providing nourishment and kinship for myriad symbionts for millennia. Anthropogenic climate-related threats—drought, warming temperatures, bark beetle—are intensifying pressures on piñon to adapt at a speed incomprehensibly fast through the perspective of the tree. Recent science has realized the piñon seedling establishment and survival depend upon its mutualistic partnership with *Geopora pinyonensis*, a species of mycorrhizal fungus, who assists the plants with water and nutrient retention that are especially vital in its early development. However, this invisible species is also facing extinction due to intense drought and warming soil. These compounding issues have caused over 2.5 million acres of piñon mortality since the 1950s. At this current rate, piñon is expected to go extinct in the next 80 years.

Research suggests that piñon's compatible mycorrhizal fungi will wait in soils where piñon is extirpated for around a decade. This is hopeful news for restoration of sites of recent piñon mortality, but it also means that the assisted migration to predicted future piñon ranges necessitates that soils are inoculated with piñon's symbiotic fungal partner before being planted in higher elevations. Piñon-juniper woodland plant

communities are understood and managed through diverse ecocultural storytelling, offering key clues on how to contend with climate disruption—for example, the importance of mycorrhizal partners, or indeed all partners and community, for survival and assisted migration.

Our proposed presentation for FEMeeting would discuss our research and demonstrate our in-process project which takes two overarching “forms,” to research, explore, and facilitate education and engagement with piñon. The first, is the creation of a zine or small, self-published book which documents our process, scientific research, and shares community stories, recipes, songs, and poetry. The second is the construction of a mobile greenhouse “gallery” where we will be cultivating piñon seedlings and traveling directly to communities to share germination processes and stories. Implicit in all forms of this project is storytelling as a methodology for maintaining sustainable ecocultures and ecosystems.

### Bryson, Kaitlin

The Submergence Collective is a mutually obligate, ever evolving, (sometimes decaying) art and ecology research collective co-founded in 2019 by Kaitlin Bryson, Hollis Moore, Mariko Oyama Thomas, and Rachel Zollinger. Our transdisciplinary projects strive to imagine and facilitate more collaborative, radically hopeful possibilities for our human species and the rest of the living and dying world. From visual artworks to written works, we are focused on generating material that participates with(in) our global ecology and offers healing, reparation and change for more sustainable and interconnected futures among species. As a multidisciplinary team, our members are highly trained in pedagogical theory, qualitative research, studio art practices, and ecological design and restoration.

We have lectured and taught workshops nationally and internationally with notable institutions including SUNY Buffalo, NY; the University of Arizona, AZ; the University of New South Wales, Australia; Dartington College, United Kingdom; and at The Politics of the Machine Conference in Berlin, Germany. Our work has been published in *The Journal of Research in Art and Education* (Finland), with an upcoming publication for the Centre of Sustainable Practices of the Arts (Canada). We have done ecologically restorative projects in Nepal, México, and the U.S., and have exhibited our artwork at 516 Arts and Harwood Gallery in Albuquerque, NM.

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## On the nature of collaboration

The meaning of collaboration

Starting on January 2021 I created a series of mobile galleries to host artistic projects on the topic of emergent life forms, that is, life exceeding the categories defined by traditional taxonomy in the era of biotech manipulation, digital worldmaking and climate change transformations. The mobile gallery was conceived at the time when galleries were closed due to lockdown. Therefore, it started as a safe space that would allow people to enjoy art outside of the gallery. As galleries reopened, the mobile gallery became an alternative to the traditional gallery space, an open space to encourage experimentation and collaborations between artists and scientists. In addition, it morphed into a space where emergent life is created by and lived through the surrounding environment and its dwellers, and even an emergent "life" on its own. The latter aspect not only made the project potentially more interesting and multifaceted, but it also complicated the relation between the space, the designers and curators of the space (my collaborators and I), and the individuals exhibiting through the mobile gallery (the artists and the scientists involved in the installation). The mobile gallery required the individuals seeking to work with it to approach it with a fully open mind: the space constraints could become a limitation to certain artworks; the structure of the gallery asked for flexibility, both physical and mental; its original nature as a space to exhibit emergent life and an emergent life on its own demanded that the artists involved not only took care of it, but that they also engaged in multiple dialogues with its structure, with its potential surrounding environment and with the creators/curators of the project.

Here is where the project took an even more intriguing, rewarding and sometimes frustrating turn. Somehow naively, I had assumed that once instructed on the nature of the mobile gallery, all the scientists and artists involved interpreted its significance in the same way as I did. I assumed that they shared similar notions of collaboration, cross-disciplinary dialogue, and ideas of care. The reality was very different. Whereas the mobile gallery could be interpreted as a living vessel to be carefully cared for, and the product of intensive, yet organic collaborations across disciplines and environments, it could be also treated just as a box where the artist thought they would simply plant their own artwork with no

attention to issues of care, what lied outside, or which audience would interact with the gallery. The gallery could be considered an important piece of conversation between the human and the non-human, an experimental space and a challenging space, or just a routine commission. With this session I would like to share some of the ongoing outcomes that have emerged from several versions of this mobile gallery. Importantly, I would like to turn some of the most crucial questions that emerged from the experience of creating and exhibiting this piece to fellow Femeeting attendees. What is the significance of collaborative work? How do we value any dialogue with other artist or with the space surrounding our artworks? How is it possible (and is it?) to establish collaborations that are respectful and caring? I mean this session as both a presentation and as a way for me to further reflect on my current practice.

### Buiani, Roberta

Roberta buiani is an interdisciplinary artist, media scholar and curator based in Toronto. She is the co-founder of the ArtSci Salon at the Fields Institute for Research in Mathematical Sciences (Toronto) and co-organizer of LASER Toronto. Her research creation work investigates emerging life forms exceeding the categories defined by traditional methods of classification. The installation Emergent is a postpandemic mobile gallery featuring encounters at the intersection of art and science with new, fabricated, and adapting life.

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## Soft chemistry in hard times: boundary work at the natural/synthetic divide in feminist textile practices

Drawing on the "Soft Structures in Hard Times" feminist STS workshops and lecture series at the University of California San Diego Visual Arts Department and Design Lab in 2022, this talk does boundary work between research-based textiles art practice and materials science. We encourage critical engagement of textile and sci-art practitioners and theorists with chemistry as a text for interpreting the nature of the textiles and dye vats we sink our hands into when we engage in practices that we variously regard as



natural, safe, and/or sustainable. We appropriate the term "soft chemistry" (chimie douce), a concept introduced in 1977 by chemist Jacques Livage to describe chemistry "that harmoniously fits into natural processes," keeping chemistry close to biology, for use in working reflexively on chemical processes in art practices involving textiles and dye, addressing the long and complex history of chemical toxicity. Understanding of textiles and dyes as bio-socio-chemical texts requires critical analytic hands-on study, in the lab and in the archive. Examples discussed will include weighted silk, a text that tells its own chemical story as it degrades stochastically, over time; Kevlar, the bulletproof polymer stronger than steel that was developed by Stephanie Kwolek; experiments with fermentation in the production of Indigo; the mordant irony of metallic salts in natural dye processes; and genetically engineered bacteria in the production of "structural color"--color that is created by surface geometry. By staying with the trouble in the zones between biology/chemistry/geometry, natural/synthetic, organic/inorganic, toxic/non-toxic, and skin/fabric, this talk invites feminist sciart and its practitioners to complicate the simple association of "chemicals" and synthetic materials and processes with textile toxicity, and to query the saturation of "natural" dyes in discourses of safety and sustainability by considering their chemical processes more closely.

### **Cartwright, Lisa**

Working across visual culture studies and feminist science and technology studies, Lisa Cartwright is Professor and Vice Chair of Visual Arts and Director of the Art History, Theory and Criticism PhD Program and the Art Practice Concentration at UC San Diego, where she is also appointed in Communication and Science Studies and is affiliated with the Design Lab and Critical Gender Studies. An alumna of the Whitney Independent Study Program and NYU Tisch School of the Arts, she holds a PhD in American Studies from Yale and has held faculty and fellowship appointments at institutions including the University of Rochester, Ruhr University, Cornell, the University of Chicago, and Brown. Her books include *Practices of Looking*, *Screening the Body: Tracing Medicine's Visual Culture*, and *Moral Spectatorship*. She is a founding member of the International Association of Visual Culture and the journal *Catalyst: Feminism, Theory, Technoscience*. With Nan Renner of the Birch Aquarium at Scripps, she is leading a multiyear research and curatorial project titled *Embodied Pacific*, engaging artists

and scientists in oceanography and Indigenous ocean knowledge for the Getty Foundation's Pacific Standard Time 2024 Art + Science exhibitions initiative: <https://www.graphicocean.org>. She is currently part of a group in the Design Lab at UCSD launching the Soft Structures initiative.

### **Torres-Londono, Stephania**

Stephania Torres-Londono is an art historian and curator studying at UC San Diego in visual arts, a research assistant in the Bioarchitectures Lab at the UC San Diego Design Lab, and project manager for the Sakman Chamorro Group on a project for the Getty Foundation's Pacific Standard Time 2024 Embodied Pacific exhibitions.

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## **Data-phantoms: impossible nests (memories post extinction)**

In a moment we sadly see young birds forgetting their songs as adults are dying faster, the series of data sculptures generated using as raw data the birdsong of six species that got extinct in nature, invites us to meditate on how fragmented audio memories of birds recorded and immortalized by humans in short videos shared online on platforms such as Vimeo and YouTube, haunt our imagination as phantoms of long-gone forests increasingly replaced by anthropogenic landscapes. The 6 (six) data sculptures produced are presented in a sequence of short animations in which the data-sculptures are linked to the birdsong used as raw data. The work invites the Yes We Cannibal community to ponder how the building abilities of organisms, far from being straightforward gene expressions, are connected to complex inherited and learned behaviors that can be appreciated as part of the self-organizing adventures of species, their symbiotic abilities and tendencies that drives cross-scale interactions and integrations in the most diverse environmental configurations and that are connected to planetary ecologies and cosmologies.

### **Ribeiro, Clarissa**

Clarissa Ribeiro, Ph.D., is a multimedia artist and researcher with an interest in cross-scale

information and communication dynamics that impact human-nonhuman behavior and other macro-scale emergent phenomena, exploring in her more recent projects the metaphysics of information-visualization in subversive morphogenetic strategies that welcome the animistic to navigate ecologies as cosmologies. Chair of the first Leonardo/ISAST LASER talks to be hosted in Brazil/Latin America (2017-present), she is a member of the UCLA Art|Sci Collective (2013-present) and was recently awarded the Roy Ascott Studio's Pete Townshend Endowed Senior Lectureship in Performative Technoetics (2022) and is at present teaching in Shanghai at SIVA Shanghai Institute of Visual Arts, Detao Masters Academy, Roy Ascott Studio B.A. in Technoetic Arts. She has exhibited worldwide and has been serving as a reviewer for Leonardo and the Technoetic Arts Journal, Leonardo Abstracts Service (LABS), contributing as a member of international conferences and symposium committees.

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## Art, education and social engagement in the space age

How can Immersive Mixed Reality (IMR) experiences inspire youth and communities to develop artistic, scientific and humanistic literacy to expand their identities as planetary citizens? How can an interdisciplinary sci-art exploration of the universe help youth to find their place in the current space age?

Artist / educator will share recent projects and research around the topic of raising awareness and developing literacy around physics, space science and space policy through Immersive Mixed Reality (IMR) experiences. The project explores how IMR has the potential to engage and inspire youth and communities in a unique way that traditional forms of education may not achieve. By using IMR to explore physics, space science, and space policy, we hope to develop a deeper understanding and appreciation of these fields, and expand our understanding of the universe. One way that IMR experiences can inspire artistic, scientific, and humanistic literacy is by allowing people to interact with and explore scientific concepts in a more immersive way. In addition to inspiring scientific literacy, the project integrates a broader humanistic perspective on space and science. By visualizing the beauty and wonder of the universe, and exploring the cultural and historical context of space exploration, we see science and space, not

just as technical fields, but also as areas of cultural and social significance. Our goal is to develop an appreciation for the essential role of science literacy, while encouraging a broader conversation about the role of science and technology in society. Finally we explore how IMR experiences can help us address the complex ecological and societal challenges of our times. By visualizing the fragility and beauty of our planet, and exploring the ways in which science and technology can help us address global challenges such as climate change, we hope to develop a sense of responsibility and urgency around these issues. Our interdisciplinary multi-artist team is exploring how to create engaging and immersive experiences that connect people to the larger story of our planet and our place in the universe, to inspire a new generation of creative and informed planetary citizens.

### Chavez, Agnes

Agnes Chavez is a Cuban-American interdisciplinary artist, educator, and founder of the STEMArts Lab, a non-profit organization that creates immersive and educational sci-art experiences for youth and communities through art, science, and technology. Chavez's work often involves experimentation with data visualization, sound, and projection art, resulting in participatory experiences that are presented at museums and festivals. She has also developed art-based curricula and STEAM programs for organizations such as Scholastic, 516 Arts, Los Alamos National Laboratory, and the ISEA2012 electronic arts festival. Chavez has collaborated with scientists at the CERN Data Center to create Fluidic Data, a permanent installation that visualizes data patterns from the Large Hadron Collider. Her recent project, Space Messengers, is an Immersive Mixed Reality (IMR) sci-art installation and international youth exchange program. Chavez's work represents an innovative and interdisciplinary approach to the intersection of art and science, with a focus on inspiring and empowering the next generation of young people to engage with complex scientific concepts through creative and immersive experiences.

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## Fusion: Landscape and Beyond

Fusion Landscape and Beyond is an interdisciplinary art research project, exploring the role of memory in imagination and creation through Artificial Intelligence(AI) and Chinese landscape painting. Inspired by the theory of Cultural Memory, which emphasizes the process of selectively retrieving and updating memory with the responses to the ever-changing present situations or concerns, we find that the current text-to-image AI algorithms can be thought of as analogous to this theory of Cultural Memory, in that they react to diverse human instructions with relatively fixed knowledge, i.e. checkpoints in pre-trained models. It shows different results based on both its formed dataset and the current inputs, producing more fantastic and unbridled images compared with the original ones in its dataset. In addition, cultural memory is also a kind of institution that exists only in disembodied form and requires preservation and re-embodiment. In response to this analogy and the three key components of the cultural memory – tradition, transmission, and transference – we propose a novel concept called AI memory and link that to the Chinese landscape painting (Shan-Shui-Hua), a synthetic embodiment of creativity derived from the artist's memory.

In Fusion: Landscape and Beyond v1.0 (2022), our team brings the "AI Memory" theory to life by integrating it with the traditional Chinese landscape representation and aesthetics. Working with a self-fine-tuned AI image generation model trained with thousands of Chinese landscape painting elements, we created an animation titled, The Faded Landscape(2022), and a series of digital paintings, conveying the essence of landscapes across time and space through the lens of "AI memory". In our artworks, we combine the symbolic elements of landscapes that span time and space to represent the past, present, and future through "AI memory".

In the upscaled Fusion: Landscape and Beyond 2.0 (2023), we further explore the memory of AI through the embodiment of landscape texture and create an interactive Artificial Intelligence art installation. Inspired by the traditional brushwork technique Cun, which is employed by Chinese artists to provide texture to the pictorial elements of nature, this installation embodies the memory of AI in China by depicting the cultural imprint of Chinese cities and nature with synthetic forms of textural strokes and coding language of AI. Through the use of interactive simulated infrared imagery, the audiences are invited to experience the process of "revealing" and "unrevealing" in the "artificial nature-city,"

which is the metaphoric visualization of "infringement" in real life. When it comes to delineating the concrete jungle that we live in today, traditional brushworks that give texture to natural elements are no longer compatible with the city image. And so the new model dynamically fuses AI's understanding of city aesthetics with traditional Chinese landscape painting brushworks to conceptually depict a synthetic city-nature environment of the past, present, and future.

For this presentation, we propose to demonstrate our projects so as to introduce the concept of AI Memory. The documentaries of the two projects will be shown to deepen our understanding of the relationship between memory and AI.

### Cheng, Mingyong

Mingyong Cheng (Beijing, China), currently based in California, US, is a computational and interdisciplinary artist who explores the intersection between new media art, science, and culture. At the University of California, San Diego, she is pursuing a Ph.D. in Art Practice with a Specialization in Interdisciplinary Environmental Research at the Visual Arts Department and Scripps Institution of Oceanography. Her research and creations explore the fusion of new media technology and traditional Chinese art, as well as environmental issues. Mingyong earned her MFA degree in Experimental and Documentary Arts from Duke University, where she expanded her artistic approach from documentary film to a more experimental approach incorporating new media technology including AI-generated art, AR experiences, 3D virtual experiences, and interactive installations.

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## The Leech House Series

Leech House is a series of symbiotic transference rituals whereby the human parasite becomes guardian host to the hermaphroditic leech, inviting the leech to feast upon and cleanse the blood with hirudin venom and gender neutralizing verve.

In these rituals and exchanges, the performer subverts her gender by opting to feed medicinal leeches instead of the human infant-parasite. In turn, the leech offers the medicinal hirudin peptide in this re-presentation of parasitism as a symbiotic exchange.

Leech House is a collaboration with over 12 artists/photographers who have helped conceptualize, stage, and document the rituals. The proposed Leech House presentation will touch upon several topics, culminating with the performance series.

1. The Art of Humoral Medicine, Bloodletting and Medicine Today: For centuries leeches were used in medicine for their anti-coagulant, anesthetic and anti-inflammatory secretions. Historically, illnesses were drawn out of the body by exorcism, magic, bloodletting, purging and other expurgatorial treatments. In medieval medicine, blood was one of the four 'humors,' or body fluids, which were linked to the elements (earth, air, fire, water), as well as to the seasons and a variety of physiological, neurological and mental imbalances. In contrast to these natural and historic doctrines, mainstream contemporary medicinal practices promote the consumption of medicine via pharmaceuticals, vaccines, and often "invasive" treatments.

2. Leeches: Shape-Shifting Non-Binary Hermaphrodites: Hirudo leeches are unisex aquatic creatures who feed upon mammalian blood. Leeches are classified as clitellata (segmented worms), with suckers on both ends and strong abdominal muscles that allow them to advance like inchworms. Hirudinida are extremely flexible, expanding from short, chunky ovals to long flat ribbons...

3. Parasitism, Mutualism & Symbiosis, or, How to Be a Good Parasite as Exemplified by Leeches  
There are many varieties of parasites. Mutualistic parasites nourish their hosts, while destructive parasites deplete them. The intelligent leech nourishes it's host by releasing medicinal enzymes while it feeds...

4. Little Biters with Big Personalities  
The anterior suckers of the leech have three jaws, which are each lined with sharp blades. These blades allow the leech to pierce the skin of the host and drink the singular nutrient that they seek, blood. Leeches are extremely sensitive, sophisticated, and wise. Perhaps this is because they have 32 segments of their brains, correlating to the 32 segments of their bodies.

5. The Leech House Series, project description, photos/videos: In an existential effort to understand my own parasitism, and to examine the possibility of a more synergistic lifestyle, I embarked upon an embodied exploration of bloodletting. My research has developed into a creative investigation, positing bloodletting as a conceptual antidote to modern consumer medicine.

Since procuring the leeches, I've been collaborating on a series of photo-based rituals with a selection of artists. Each artist/photographer has contributed their own ideas,

styles and techniques to the project, creating an eclectic portfolio of images and videos.

### Cooley, Ryder

Ryder Cooley is an interdisciplinary artist and musician based in New York. Weaving together chimeric visions with music, movement and imagery, she creates cinematic performances and sonic phenomena. Ryder holds an MFA from Rensselaer Polytechnic, an MA from SUNY Albany and a BFA from the Rhode Island School of Design. Ryder has performed and collaborated with artists and musicians including Pauline Oliveros, Rasputina, Elvis Perkins, Tommy Stinson (Replacements), Langhorn Slim, Swoon & Miranda July. She is the founder and lead singer/musician of the dark carnival band Dust Bowl Faeries. Ryder and the Dust Bowl Faeries have won awards for their music videos in NY, LA & Germany. Ryder has created and exhibited internationally at locations including: Sitka Center for Art and Ecology, Museum of Ethnography (Sweden), World Cultural Museum (Sweden), Robert Wilson Watermill Center, National Public Radio (WNYC & WAMC), Art OMI, El Paso Museum of Art, MOMA PS1, Yerba Buena Center for the Arts, Oakland Museum, White Box Gallery, Tang Teaching Museum, Samuel Dorsky Museum of Art, McDowell Colony, Yaddo, Blue Mountain Center, Vermont Studio Center; LIP French Cultural Center, (Indonesia), Hambidge Center and Ecology. (<http://rydercooley.com/>)

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### Where is Midnight?

I often explore light and natural phenomena in installations that have included a machine for making rainbows, sun and moon pointers, paranoid dinner table devices - and a variety of photographic and sculptural approaches to marking time.

I plan to discuss two recently completed projects that have been a couple years in the making.

Spore Drift features documentation of spore prints created during the pandemic. Over time and in collaboration with air currents in the studio, spores fall from the mushroom caps, producing a fine powder that varies in color and character. In this magical process, it's as if the mushrooms are drawing themselves on the paper provided. Paradoxically, the images formed by the cast-off spores resemble photographic

negatives; they seem to contain light, both cosmic and spectral.

Where is Midnight? was initially photographed on the summer solstice in 2021 in Finnish Lapland during 24-hour daylight. I enlisted myself as the gnomon (an object whose shadow serves as a time indicator on a sundial) and recorded my shadow by drone at both solar midnight and solar noon. The juxtaposition invites a unique consideration of how the Earth's movements affect light occurrences specific to the time of day, time of year and to geographic location. Created during an amazing residency at Ars Bioartica, Bioart Society, Kilpisjärvi Biological Station of the Faculty of Biological and Environmental Sciences, University of Helsinki, Finland. Both projects will be presented within the context of previous works and the history of scientific photography.

### Cummins, Rebecca

Active in public art and collaborations, Cummins has also exhibited widely. Exhibitions include the Shanghai Biennale; the Biennale of Contemporary Art, Seville; The Adelaide Biennale of Australian Art, The Museum of Contemporary Art, Helsinki and Art Center Nabi|Asia Culture Center (ISEA2019), Gwangju, South Korea. Residencies in addition to Ars Bioartica have included Symbiotica, SymbioticA School of Anatomy and Human Biology, University of Western Australia, Perth, West Australia, 2015 and Bundanon Trust Residency, North Nowra, NSW, Australia. Cummins received a BFA, University of Northern Iowa, an MA, University of New Mexico and a Doctorate, University of Technology, Sydney. Cummins is a Professor in the School of Art + Art History + Design, University of Washington, Seattle.

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## Women media artists: changes, visibility, comparisons (working title)

Lately I have been absorbed by the prominent rise and visibility of women media artists over the last decades. It is of special interest because many of them make invaluable contributions to the art & sci & tech revolution. The deliberation serves as a reminder for me of past curatorial projects leading to comparisons with the present situation.

After the Berlin Wall came down I curated and presented several media art compilations by Canadian women artists in Central and East Europe. In the followings an example is presented from one of those tours decades ago and a recent project for comparison.

Ex Oriente Lux - Romanian Video Week was held between in the winter of 1993.

The symposium was held in the unheated, historic Dallas Hall in the centre of Bucharest where we (the international speakers) set in our winter coats on the podium. Despite all the difficulties the Hall was full. The exhibition contained excellent current media art creations on a variety of themes. After my presentation of the Shifting Paradigms compilation showing experimental contemporary videos by Canadian women artists several young women approached me from the audience with grateful thanks for presenting videos from Women artists. One of the reasons for the thanks was that as late as the early nineties women artists East of Vienna were still not encouraged to experiment with video as an art medium. There were no educational opportunities for them. This event opened their eyes to future possibilities, providing an encouragement to new territories to explore. Today successful Romanian video artists compete internationally.

Moving in time and especially location: in September 2022, I co-curated with Yu-Zhi Joel Ong, the Canadian component of Sensoria The Art and Science of Our Senses a multi-site international collaboration project. "The exhibition will explore the dissociative potential of contemporary technologies on the senses, treating it not only as a social crisis but also an opportunity for creative play and experimentation" said Ong. The exhibition was very successful. To my surprise the Canadian contributing media artists to Sensoria were all confident women presenting intriguing digital and electronic art installations, contributing to the symposium. In addition I found out that the majority were simultaneously higher academic degrees as PhD candidates.

Admittedly the media art situation (just as all situations) changed over the years women artists became much more confident. My aim with this submission less reporting examples from different times, different locations but to encourage a discussion on how, when and where did changes for female media artists transpire and what can be expected in the future?

### Czegledy, Nina

Nina Czegledy independent curator, media artist, researcher, educator is based in Toronto, Canada.



She collaborates internationally on art&science & technology projects. Current curatorial projects: A Light Footprint in the Cosmos for the Substantial Motion Research Network (2022), Sensoria, the art and science of our senses, Laznia, Contemporary Art Centre Poland & Sensorium Centre for Digital Arts and Technology, Canada (2022), Dobble Debate digital educational game focused on dis/different abilities with Lynne Heller, OCADU (2022). Agents for Change/ Facing the Anthropocene (2020) The Museum, Canada; Who's you? (2019) JD Reid Gallery, New Zealand, Leonardo 50th, CyberArts ARS Electronica (2018), Austria Academic affiliations: Adjunct Professor, OCAD University, Toronto; Fellow, KMDI, University of Toronto; Research Collaborator, Hexagram International, Montreal; Board member Leonardo/ISAST; Leonardo LASER co-chair, Senior Fellow, Hungarian University of Fine Arts, Researcher, NOEMA Italy, Chair, Intercreate org, New Zealand.

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## The Role of Art and Consciousness in Implementing Climate Solutions

Erin is delivering renewable energy projects that address the extractive model of energy development and social, environmental justice with Tribal Nations. Bring your renewable energy, regenerative agriculture, or climate solution to the workshop and let's discover together what is the role of art and consciousness in our work. We will share our emergent understandings, what the new economic model(s) look like, dialogue around the design principles necessary to progress, share example projects, and celebrate the unprecedented collaboration the climate transition requires. We will close with our commitments to deliver innovative climate solutions that heal the Earth and its people.

### Dayl, Erin

Erin leads the collaboration development for Native energy projects with Seneca Solar. She previously worked on sustainable economic development and renewable energy in New Mexico for twenty years. She co-founded Collaborative Green, a sustainability consulting firm focused on sustainable development strategies and regenerative business practices.

Erin has also held positions at Intel, the Taos Community Foundation, the Taos Green Chamber of Commerce, and other organizations. She has a BA in International Conflict Resolution and Organization Development and is working on a Masters in Transdisciplinary Practice.

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## FEMeeting: Conversations

The emergence of new art laboratory spaces coordinated by members of the FEMeeting community took us in 2021 to introduce "Sister Labs". Starting as a series of captivating online watch parties, hosted within laboratory facilities, FEMeeting members extend a heartfelt invitation to the community of women in art, science and technology: to celebrate the lab as a facility and human resource as well as a welcoming host for a future art residency. In 2023 we are developing through our website a simple cartography of art laboratory spaces dedicated to providing a safe and collaborative environment for women engaged in art & science research. These lab spaces serve as conduits for shared knowledge and exploration, facilitating research in this dynamic intersection. By transcending geographical boundaries, "Sister Labs" envisions a secure and interconnected network of laboratories, empowering women in their pursuit of knowledge, creativity, and innovation. An innovative hybrid model of interaction that harmonizes local and global connections, as well as physical and digital realms, FEMeeting invites conference participants to explore the potential of collaborative cartography, fostering a vibrant ecosystem of discovery and care.

### De Menezes, Marta

Marta de Menezes (born 1975) is a Portuguese artist, with a Degree in Fine Arts from the University of Lisbon and a MSt from the University of Oxford. De Menezes is director of Cultivamos Cultura, the leading institution devoted to experimental art in Portugal and Ectopia, dedicated to facilitate the collaborative work between artists and scientists. Marta de Menezes has worked in the intersection of art and biology since the late 90s, in the UK, Australia, the Netherlands, and Portugal, exploring the conceptual and aesthetic opportunities offered by biological sciences for visual representation in the arts. Her work has been widely exhibited in major venues in all continents, presented in most anthologies

devoted to bioart, discussed in doctoral dissertations, and considered an example of research in the visual arts. Among the most recent international exhibitions, de Menezes was invited for the 2019 Ars Electronica Festival: Out of the Box, and organized two 2020 Ars Electronica Gardens (Lisbon and São Luis). She was invited to be the official representation of Portugal at the London Design Biennale 2016 and exhibited at the Beijing Biennale of New Media Art 2016. DeMenezes was nominated in 2015 by Time and Fortune magazines for the Art and Technology Awards 2015. Besides her work as artist, de Menezes curated major international exhibitions including for European Capital of Culture (Portugal), Kontejner Festival (Zagreb), Verbeke Foundation (Belgium) and this last three years the editions of FACTT –Transnational and Transdisciplinary Festival of Art and Science that took place in Lisbon, New York, Mexico City, Berlin and Toronto.

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## Queering the Audiovisual Signal

We are an audiovisual performance duo, informed by queer feminist materialist approaches. In our work, we investigate the question of how “queering” happens when non-human and human bodies interact with one another in a complex audiovisual ecosystem. We use real-time audiovisual signal processing tools (modular synthesis, video/audio mixers, transducers), listening and improvisational strategies. We channel our camp sensibility and create performative actions by collaborating with more-than-human worlds. We use the process and concept of feedback in our improvisational structures. For a “being”, feedback is an event with an opportunity for reflection: Presenting what we have done in the past and what we can transform by introducing the same action into different signal paths. Feedback gives us an opportunity to listen/see/experience what a result could be when we change our constructed “spaces” and “systems”. Our collaboration is a reaction to the contemporary audiovisual culture which under-represents marginal bodies and identities and has the tendency to present a sterilized aesthetic that lacks carnal desires, camp sensibility, and erotic fantasies. Our audiovisual world is electric, a lighting field of sorts where vibrations, bodies, parts, and qualities are exchanged, reused, and restored.

## Duncan, Monica

Monica Duncan (she/her) is a video and performance artist. Her time-based work investigates the nature of visual perception, audience-performer relations and queer potentiality through camouflage, improvisation and collective image-making. Duncan’s work has been exhibited Künstlerhaus Mousonturm, Hebbel am Ufer HAU1, Frankfurt Lab, Komuna//Warszawa, The Kitchen, La Casa Encendida, ZKM, Los Angeles Contemporary Exhibitions, amongst others. She has been a visiting artist at Atlanta College of Art, Signal Culture, Experimental Television Center, Scena Robocza, Institute for Electronic Arts and PACT Zollverein. She holds a MFA from the University of California, San Diego and a MA in Choreography and Performance from JLU Gießen, Germany. Duncan joined the faculty of the Department of Music, Multimedia, Theatre & Dance at Lehman College-CUNY in Fall 2019.

## Pirler, Senem

Senem Pirler (she/her) is a sound and intermedia artist, and educator. Born in Turkey, Pirler studied classical piano at Hacettepe State Conservatory and sound engineering and design at Istanbul Technical University/MIAM. Pirler earned her M.M. in Music Technology from NYU Steinhardt, and her Ph.D. in Electronic Arts from Rensselaer Polytechnic Institute. Pirler’s artistic practice is collaborative: she is interested in the concept of agency in improvisational practices and creating opportunities that hold complex entanglements between human and nonhuman bodies, spaces, and multi-sensory experiences. Pirler has exhibited and performed work at institutions, venues, and festivals internationally, such as EMPAC, Roulette Intermedium, The Kitchen, Carnegie Hall, Southbank Centre (London), Akademie der Künste (Berlin), Los Angeles Philharmonic, Baryshnikov Arts Center, Montalvo Arts Center, Mount Tremper Arts, and Collar Works. Her work has been recognized by various institutions through residencies, such as Institute for Electronic Arts, PACT Zollverein, and Signal Culture residency. Pirler has been awarded a NYSCA/NYFA Artist Fellowship in the category of Music/Sound in 2022 and the Malcolm Morse Award to honor the work of Pauline Oliveros and Deep Listening in 2018. Dr. Pirler joined the Bennington College faculty in the Fall of 2018.

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## On Arctic Shifts

Climate change is driving the most rapid changes on the planet in the Arctic. Sea ice is melting, coastlines are eroding, permafrost is thawing, and as a result, ecosystems are changing rapidly. This FEMeeting: Taos 2023 presentation will highlight an in-progress art-science project, “Arctic Shifts,” which aims to engage audiences in understanding the connections between global human activity and environmental and ecosystem changes in the Arctic. “Arctic Shifts,” is an animated short with music that underscores connections between the microscopic and macroscopic, and that shares the complexity, beauty, and increasing volatility of the earth system at different scales. The animation asks the viewer to consider the interconnection between our human activity and the emergence of a “New Arctic.” How does a breath you take affect the lives of phytoplankton in the Arctic? What happens to all the other creatures in the Arctic and around the world when the lives of these single-celled photosynthesizing organisms at the base of the food web change? “Arctic Shifts” grows from a collaboration between artist Anna Lindemann and scientist Dr. Alice DuVivier, a polar climate modeler at the National Center for Atmospheric Research (NCAR). Dr. DuVivier studies the changing Polar climate using the Community Earth System Model (CESM), a global climate model that provides state-of-the-art computer simulations of the Earth’s past, present, and future climate states. “Arctic Shifts” draws extensively from scientific research on the changing Arctic and make use of simulations of the Arctic’s future climate derived from CESM outputs. As Arctic sea ice changes, Arctic food webs will shift in ways that vary regionally, seasonally, and over time. But the exact nature of these ecosystem-level shifts is uncertain. Alongside incorporating CESM data, “Arctic Shifts” invokes speculative futures about Arctic food webs; futures that are rooted in scientific research, but that currently fall outside the scope of simulations. The animation presents three possible scenarios for the “New Arctic.”

### DuVivier, Alice

Dr. Alice DuVivier uses climate models and observations to investigate physical processes and the changing climate in the Arctic and Antarctic. She is interested in understanding exchanges of energy and moisture between the sea ice, atmosphere, and ocean. She also

investigates how the changing polar regions will affect natural ecosystems and the people living and working in the polar regions. Her physical science research has been published in a number of Earth science journals. She is also very interested in outreach to students and the public, and is interested in learning how to optimally communicate about climate and polar science in novel ways and to all types of audiences. She received her Ph.D. from the University of Colorado, Boulder and a B.A. in Physics from the Colorado College. She is currently a research scientist at the National Center for Atmospheric Research (NCAR) in Boulder, CO.

### Lindemann, Anna

Anna Lindemann calls herself an Evo Devo Artist. Her work as a composer, animator, and performer explores the field of evolutionary developmental biology (Evo Devo). Her work seeks to uncover narratives within rigorous scientific research, to visualize biological processes in novel ways, to define new creative processes modeled on biological processes, and to examine the human emotion and subjectivity behind scientific research. She has presented her work at such venues as Imagine Science Film Festival, ISEA, SEAMUS, the KLI Institute for Theoretical Biology, EvoMUSART, EMPAC, SCINEMA International Film Festival, the Moscow State Darwin Museum, the ATLAS Center for Media, Art and Performance, and the Yale Franke Program in the Science and Humanities. She has published in Leonardo, Women and Music: A Journal of Gender and Culture, Lecture Notes in Computer Science, SciArt Magazine, and PLoS One. She is the recipient of a Connecticut Artist Fellowship and a co-PI on a National Science Foundation grant. Anna received an MFA in Integrated Electronic Arts from Rensselaer Polytechnic Institute and a BS in Biology from Yale. She is an assistant professor in the Digital Media & Design department at the University of Connecticut where she has pioneered courses integrating art and science.

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## Field Notes: Art and Public Science – a NATURE Lab-Science for Change collab

This is a field report of observations made during a month-long artist residency by Science for

Change member, Isidora Fernandez, in collaboration with NATURE Lab Coordinator Kathy High. We will look at the various methods used to incorporate art practices into ongoing public science research in the North Troy area in upstate New York. Particularly of interest are ways to encourage creative engagement alongside community science and spark further participation by community members.

During Fernandez's residency, Dr. Sarah Cadieux will be leading a research project on microplastics in drinking water at NATURE Lab. Cadieux has set goals for the project "Microplastics in Troy: Source and Waste":

"Plastic pollution is a growing problem, with microplastics identified in some of the world's most isolated environments. Previous work on the Hudson River estimates that the watershed contributes 300 million microplastic fibers to the Atlantic Ocean per day. Plastic pollution enters the Hudson River via stormwater runoff, wind and atmospheric deposition, treated wastewater discharge and stormwater. Microplastics have also been identified in drinking waters across the United States. The consequence of microplastic pollution on human health is not yet known, however a negative effect has been reported for aquatic life. Here, we focus on identifying microplastics in waters of Troy NY. Preliminary results of tap water on RPI campus show microplastic fibers in the waters, indicating that water treatment is not removing microplastics. The majority of wastewater treatment plants in NY are not equipped to filter out small particles, so microplastics are likely making their way into the Hudson River via outflow and stormwater. In this project, we will assess drinking source water, concentration in tap water, and concentration in wastewater effluent and river locations influenced by combined sewer overflows. Results will be shared with the community and water treatment management to make informed decisions."

During Fernandez's NATURE Lab residency, High and Fernandez will produce a series of artistic interventions and offer a public workshop to extend this research into the creative imaginary. While there is plenty of research around art & science collaborations, we specifically ask how art goes beyond science communication to encourage creative investigations about and alongside scientific inquiries into how systems work? How can we activate a public? How to use artistic methods to creatively disrupt and inspire community members to bring attention to a growing environmental justice crisis? What stories can we tell and promote to change certain regulatory policies? This talk will look at the art practice methodologies used, as Eva Haifa Giraud writes in *What Comes After Entanglement?*, to

"contest norms," "perform responsibility," and "develop hierarchies of care"[1].

### Fernandez, Isidora

Isidora Fernandez studied social communication (PUC), graduated in Ecotourism Management (UNAB) and did a Masters degree in Scientific, Medical and Environmental Communication at UPF-BSM. During the last years, she worked coordinating the Arts&Science department of Science For Change as creative producer, developing exhibits, designing science experiences, participatory workshops and creative data collection methodologies for citizen science studies. Science For Change is a Spanish NGO based in Barcelona. They work on citizen science projects, promoting collaborative science.

### High, Kathy

Kathy High is an interdisciplinary artist working with technology, art and biology. She is Professor in the department of Arts at Rensselaer Polytechnic Institute, Troy, NY, and Director of BioArt & Technology Laboratory at RPI's Center for Biotechnology and Interdisciplinary Studies. High collaborates with scientists and artists, and considers living and dying systems, empathy, animal sentience, and the social, political and ethical dilemmas of biotechnology and surrounding industries. She is a supporter of community DIY science and ecological art practices and the Project Coordinator for NATURE Lab with The Sanctuary for Independent Media. She is committed to queer / feminist approaches to reshaping ecological bio-science research, learning-by-doing and collaborative action. She has received awards including Guggenheim Foundation, National Endowment for the Arts. Her artworks have been shown at the Museum of Modern Art (NYC), Science Gallery (Dublin), NGBK (Berlin), MASS MoCA (North Adams). She has had residencies with SymbioticA (AU, 2009-10), Finnish Society of Bioart (2013), Coalesce UBuffalo (NY, 2016-17), Djerassi Scientific Delirium Madness (CA, 2019), Ectopia/ BLEND (Portugal, 2022).

## Fostering a STEM Culture in the Classroom

In this workshop, you will learn about the strategies used by STEM Santa Fe to develop engaging STEM programs, as well as three key takeaway points: Project, Place, People. The workshop will include a hands-on exercise and an exploration of the objectives of a STEM education that go beyond simply increasing the number of STEM professionals in the workforce.

### Germann, Lina

Since moving to Santa Fe in 1997, Lina Germann, Ph.D., MBA, has tirelessly been an advocate for STEM Education and for raising the bar for education in New Mexico. While parenting and working part-time, alternating between the education and technology sectors, Lina continued to be an active community member, spearheading large community events, leading afterschool STEM programs, as well as serving on local boards and committees. After 19 years with New Mexico as her home, in 2016 Lina founded STEM Santa Fe, a NM 501(c)(3) nonprofit, initially to provide program just for girls but quickly expanding to serving boys and girls in all Northern NM and with in-school and out-of-school time programming. Lina Germann and STEM Santa Fe have earned many awards since 2018, the latest being 2022 Piñon Visionary award, 2022 Mentor of the Year for New Mexico Excellence in STEM, and 2023 Women in Technology Honoree.

the purpose of revitalizing our connections to our planet, engaging participants in thinking of holistic ecologies, and interrogating questions about the supposed separation of planetary built and natural systems.

### Grothaus, Grace

Grace Grothaus (b. New Orleans, USA) is a computational media artist whose research questions center around ecosystemic human and plant relationships in relation to the present global climate crisis and speculative futures. Her research-creation is expressed as physical computing installations which take place both outdoors or in the gallery. She endeavors to make invisible phenomena experienceable for the purpose of revitalizing our connections to our environments, engaging participants in thinking of holistic ecologies, and interrogating questions about the supposed separation of planetary built and natural systems. Frequently collaborative, Grace works with scientists, engineers, musicians and other visual and performing artists. Her artworks have been exhibited widely throughout North America and abroad on five continents including at Cité Internationale des Arts (Paris, FR), the World Creativity Biennale (Rio de Janeiro, BR), Environmental Crisis: Art & Science (London, UK), and the International Symposium of Electronic Art (Barcelona, ES & Durban, SA). Grothaus has received awards for her work from organizations such as the United States National Foundation for Advancement in the Arts and currently she is working towards a PhD in Digital Media from York University where she has been named both a Vanier and a VISTA scholar, as well as a Graduate Fellow of Academic Distinction.

## Eco Systems: Environmental Data Visualization in Computational Art

Grace Grothaus is a computational media artist whose research questions center around ecosystemic human and plant relationships in relation to the present global climate crisis and speculative futures. Her research-creation is expressed as physical computing installations which take place both outdoors or in the gallery. In her brief talk she'll discuss three projects in which she endeavors to make invisible environmental phenomena experienceable for

## Subtle sounds\_ Queer Laughter

Many creatures and materials operate in a sonic range that is beyond our human hearing, communicating in an ultrasonic or subsonic range of frequency. Human's hearing spectrum is between 20Hz-20kHz. Ultrasonic vocalized sounds and communication exist side-by-side our own limited audible range, perceived only subtly by us. What are the erotics of these sounds? What is the power in them? Artists Kathy High with Michelle Temple, sound technologist Matt Wellins, audio engineer Eric Rosenthal and scientist Jeffrey Burgdorf, are working on developing tools to engage with this



hidden audio world. One project to date has been “Rat Laughter” that uses recorded ultrasonic rat giggles to compose a chorus of laughter for laboratory rats to enjoy. “The use of vocal indicators of various other emotional states in other species has helped reveal emotional circuits that may be of importance in understanding the ancestral sources of human emotionality” (Brudzynski et al., 1995; Jürgens, 2002; Newman, 1988; Panksepp, 2007). This research allows us to be aware of our deepest connection to non-human life and the vast amount of information we do not know. Or as philosopher Timothy Morton asks in his essay “What is Dark Ecology?": “Ecological awareness forces us to think and feel at multiple scales, scales that disorient normative concepts such as ‘present,’ ‘life,’ ‘human,’ ‘nature,’ ‘thing,’ ‘thought’ and ‘logic.’” Listening to rat laughter “translated” perhaps puts the listener in the position of an “other” species and allows us to engage with their play.

### High, Kathy

Kathy High is an interdisciplinary artist working with technology, art and biology. She is Professor in the department of Arts at Rensselaer Polytechnic Institute, Troy, NY, and Director of BioArt & Technology Laboratory at RPI’s Center for Biotechnology and Interdisciplinary Studies. High collaborates with scientists and artists, and considers living and dying systems, empathy, animal sentience, and the social, political and ethical dilemmas of biotechnology and surrounding industries. She is a supporter of community DIY science and ecological art practices and the Project Coordinator for NATURE Lab with The Sanctuary for Independent Media. She is committed to queer / feminist approaches to reshaping ecological bio-science research, learning-by-doing and collaborative action. She has received awards including Guggenheim Foundation, National Endowment for the Arts. Her artworks have been shown at the Museum of Modern Art (NYC), Science Gallery (Dublin), NGBK (Berlin), MASS MoCA (North Adams). She has had residencies with SymbioticA (AU, 2009-10), Finnish Society of Bioart (2013), Coalesce UBuffalo (NY, 2016-17), Djerassi Scientific Delirium Madness (CA, 2019), Ectopia/ BLEND (Portugal, 2022).

## Self-de-colon-izing

By portraying diverse bodies, desires, and relationships, feminist erotic art actively challenges the erasure and marginalization of certain identities within mainstream narratives. By dismantling the colonial legacy within desire and sexuality, feminist erotic art may serve as an incentive to critically examine and transcend the confines of societal norms, opening up new possibilities for self-expression. By doing so, it fosters a more inclusive and empowering understanding of erotic expression, breaking free from the limitations imposed by societal norms. Embracing consent, agency, and pleasure, this form of art disrupts narratives that perpetuate violence, coercion, and objectification.

This is the story of my alter-ego Gina Rottweiler, the daughter of a hijacker and a cabin crew. She was a novice in a Coptic Monastery, but embraced Sufi Philosophy before she took the vows. Following her PhD on the therapeutic uses of sea cucumber species, Rottweiler managed a diving agency for two decades and debuted as a writer after a near-death experience. Author of Mouth Analogy (2016) and Livestock (2018).

### Honorato, Dalila

Dalila Honorato, Ph.D., is currently Assistant Professor in Media Aesthetics and Semiotics at the Department of Audio and Visual Arts of the Ionian University in Greece where she is one of the founding members of the Interactive Arts Lab. She is the head of the organizing committee of the conference “Taboo-Transgression-Transcendence in Art & Science” and developer of the studies program concept of the Corfu Summer School in Hybrid Arts. Besides teaching at the undergraduate and graduate programs she also advises doctoral and post-Doc candidates developing their research in Arts Practice. She is a guest faculty at the PhD studies program of the Institutum Studiorum Humanitatis in Alma Mater Europaea, Slovenia, and a guest member of the Science Art Philosophy Lab integrated in the Center of Philosophy of Sciences of the University of Lisbon. In 2013-17 she participated in the research program by COST “Appearance matters: Tackling the Physical & Psychological Consequences of Dissatisfaction with Appearance” (Action IS1210) coordinating the task group focusing on Media and Self-Narrative. Her research focus is on embodiment in the intersection of performing arts and new media.

## Ecologies to Cosmologies: Technoetic Offerings

Continuing to address Spirituality as consistent with the notion of the embodied mind developed in cognitive science [1]. Spiritual experience is an experience of aliveness of mind and body as a unity [2]. Moreover, this experience of unity transcends not only the separation of mind and body, but also the separation of self and world. The central awareness in these spiritual moments is a profound sense of oneness with all, a sense of belonging to the universe as a whole.

Andrea's Room is an environment juxtaposing organic and scientific iconographies of the natural world that seem unseen, forgotten or discarded against established aesthetic and moral taboos associated with Yoruba syncretic religion.

Nature offers unlimited beauty revealed through patterns observed from its ecologies to cosmologies. In experiencing such patterns, we unite with the essence of the universe and nourish our souls. In collaboration with Clarissa Ribeiro, who has been exploring the powerful iconography of Pemba in expanding the power of offerings used for energy cleansing and protection rituals.

Pemba is a tapered, round-shaped piece of chalk made of limestone that may have different colors, used ritualistically in Afro-Brazilian religions such as Candomblé, Umbanda, Quimbanda and Quiumbanda.[3] Its main function in rituals is for the writing of the crossed-out point, being a sacred spelling with different geometric shapes and traces, which represents a certain phalanx of spirits or guide.[4] In Candomblé, the points are referred to the different orishas that are worshiped.

It is in pursuing the understanding of how intrinsic ecologies to cosmologies are connected to our physical, emotional and spiritual perceptions that we started to collect digital offerings generated in Instagram under the hashtags #andrearoom #andrearoomofferings and we invite you to do the same.

### Jacques, Claudia

Claudia Jacques, PhD, MFA, is a Brazilian-American interdisciplinary technoetic artist, designer, educator and researcher based in NYC. Her focus is on Information in HCI through the lens of Cybersemiotics. She photographs and designs interactive hybrid art and information environments that aim construct experiences in

consciousness to promote the expansion of human knowledge. She is an adjunct associate professor of art and design at CUNY BCC and SUNY WCC; is the founder and Creative Director of Knowledge Art Studios; serves as consulting editor and as art/web editor for Cybernetics and Human Knowing Journal; a member of the Editorial Organism of Technoetic Arts Journal; as well as a member of the UCLA Art|Sci Collective.

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## “Bosque Vacío”

“Bosque Vacío” (Empty Forest) is an atmospheric proposal of slow listening that explores the interstitial space between a sound/light environment, installation, and experimental music. Through granular synthesis, sine waves in different intonation systems, vocal exploration, lighting, color, and quadrasonic sound design, “Bosque Vacío” is an exercise of deployment, accompaniment, and tonal inquiry of field recordings of nature. This project explores the entanglements of nature and culture, the human and non-human, using the concept of atmosphere as a toolbox to create immersive environments that will heighten bodily perception and emotional response toward our habitats and the species we co-inhabit the world with. Our proposal acknowledges the ecosystem as active and responsive and, in this sense, reinforces environmental connection and engagement. Embodiment dissipates otherness, so our proposal aims to create immersive environments—that stem from a site-specific array of field recordings—that will enable participants to participate bodily and perhaps experience nature anew.

“Agua” (Water), is a 40 min immersive performance we developed as part of the exhibition: “Espacios de Resistencia. Catálogo inexacto de la naturaleza en los bordes de una ciudad” (Spaces of resistance. An inaccurate catalog of nature on the edges of a city) which is a project by Arte+Ciencia and Bios ex Machina that reflects on the ways of being of nature in city enclaves. It seeks to understand our dealings with the environment from a critical perspective that questions the history of urbanization in Mexico City.

Nature is in a continuous dialogue with urbanism, where negotiations have depended on different axes of organization, being the agricultural and vehicular central coordinates. The city has been transformed countless times, and its growth has overflowed beyond the margins that, at some

point, were considered natural geological boundaries, such as the pedregal of San Angel, which is located in the south of the city and that during centuries served as a natural frontier for urbanization. In the mid-twentieth century, this place was delivered to the forces of urbanization. It is not easy to break the rocks from lava to build a space suitable for humans.

The National Autonomous University of Mexico (UNAM) is built in that space, among the rocks. There is a particular location in the university's history and the rocks, a place known as Cantera Oriente that was exploited for years to produce the asphalt for the city's roads. The Cantera Oriente is a space for scientific research. It is part of the Ecological Reserve of the Pedregal de San Angel (REPSA) of the UNAM, a natural reserve within Mexico City. This place served as the axis of reflection to carry out fieldwork in which different (dis)appearances of nature in a city environment are explored, such as the sound (of machines and birds), water (the lakes in the Cantera emerged when the excavation of the area reached the water table), soils (as a substrate for growth but also as a receptacle for waste, since the Cantera houses part of the rubble from the disastrous 1985 earthquake in Mexico City), wild animals (where is the animal in the city?), etc. "Agua" is a four-movement piece composed around field recordings of the four ways water appears in the Cantera Oriente Reserve: subaquatic, subterranean, rain, and spring. Water is the main force whose agency changed the story of this once a quarry and now an ecological reserve in the middle of Mexico City.

### Lee, Leena

Leena Lee (Lena Ortega) is a sound artist, researcher, designer, and teacher who explores nature-culture relationships with particular emphasis on the ecology of the sound environment, bioacoustics, and field recordings. Through practice-based research, she aims to cultivate community ecological awareness through listening practices, field observation/recording, and sound environment composition. Her main interest is the bird-individual population with whom she shares living spaces and how they relate to their territory. She approaches these investigations from the perspective of co-habitant, incorporating other dimensions of care and relationship with non-human animals and the environment that open possibilities to think critically about the spaces we inhabit and how we are environmental beings. She has been a visiting artist and researcher in America and Europe, participated in national and international exhibitions,

and published articles in collective books on philosophy, arts, design, and sound art magazines. She is a member of the research and production group Arte+Ciencia of the Universidad Nacional Autónoma de México. She has published, along with singer Vania Fortuna, under the London-based label: Flaming Pines and hosts the radio program Sin Superficie, la Piel no es el Límite, which focuses on field recording, sound art, and experimental ambient music.

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## Retelling Stories: Museums and Decolonializing Art History

Harwood Museum of Art in Taos New Mexico is celebrating its Centennial in 2023. As we look at our past and address creating Belonging within and outside the museum, we have encountered challenges in the process. I will share our process, challenges, and successes as we navigate becoming a more equitable, inclusive, and intentional institution.

Leherissey, Juniper Leherissey, Executive Director, has followed a passion for art and creativity back to her hometown of Taos. She spent many hours at the Harwood Public Library growing up. After dedicating her career to non-profit arts, Juniper took the helm of the museum in 2019 to make a difference in the community that she loves.

With 26 years of professional non-profit management experience, she has held positions at the Carnegie Museum in Pittsburgh, Henry Art Gallery in Seattle, Santa Fe International Folk Art Market, Taos Land Trust, and other arts organizations. She was Development Director for the Harwood for 8 years prior to returning as Director. She holds a Masters in Arts Management from the Carnegie Mellon Heinz School of Public Policy and Management, and a Bachelor of Arts in Anthropology from Reed College. She serves on the governing boards of Taos Mainstreet, STEMarts Lab, and the MAE Private Foundation.

### Leherissey, Juniper

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## Love and Law in Space

Myriad engineering and technological challenges will face us in constructing extraterrestrial habitats that are resilient to natural and human made hazards. We expect to face meteorite impacts, debris and intense particle radiation and will almost always be aware of the need to maintain viable states of temperature, air pressure and oxygen. How are these conditions likely to affect our more personal but no less essential needs for fair social contracts, communication and intimacy in an outer space environment? How do we prevent the colonization of resources in planets mined for rare minerals? As feminist artists, how do we envision making and viewing art in space? Feminist principles are implicit to most science-integrative frameworks.

Outer space ostensibly provides an opportunity to build a democratic and ecological society from the ground up. I propose to explore some models for future space governance. In numerous discussions with lawyer and activist curator, Saskia Vemaylan, we looked at artists who aim, through art, to better design some of the laws of international commerce, innovation, and governance in habitats and communities for space habitation. In this proposal, I join Dr. Vermeylan and others (Afrofuturists in particular) in offering critiques of current Space Law and providing creative imaginaries of space exploration. I propose to review the importance of objects to the development of international law. I plan to briefly discuss my ongoing project that concerns the re-imagining of space via patent law and consideration of the commons. Artists were commissioned by NASA (I among them in 1985), and, if time permits, I hope to

review the aims of the program and some of the work created (e.g., by Robert Rauschenberg and Laurie Anderson) and offer a critique with an eye to future needs.

### Levy, Ellen

Ellen K. Levy, PhD, is a multimedia artist and writer known for exploring art, science and technology interrelationships. Levy highlights them through exhibitions, educational and curatorial programs, and publications. She was President of the College Art Association (2004-2006) before earning her doctorate (2012) from the University of Plymouth (UK) on the art and neuroscience of attention. She then was Special Advisor on the Arts and Sciences at the Institute for Doctoral Studies in the Visual Arts. She was a Distinguished Visiting Fellow in Arts and Sciences at Skidmore College (1999) and taught transdisciplinary classes (e.g., the New School, Cooper Union, Brooklyn College, Banff). She received an AICA award and an arts commission from NASA following a solo exhibition at the National Academy of Sciences (NAS) (1985). She has exhibited widely in the US and abroad. With Charissa Terranova, she is co-editor of D'Arcy Wentworth Thompson's *Generative Influences in Art, Design and Architecture* (2021, Bloomsbury Press). Levy and Barbara Larson co-edit the "art and science since 1750" book series of Routledge Press.

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## Speculative Futures and Collective Effervescence

I will share my experiments in prototyping embodied experiences and networks of care using digital technologies. These works propose alternatives to patriarchal and colonizing values often associated with dominant technology platforms and ecosystems. The specific works that I am considering to share in an artist talk or exhibition, include: *Peckish* (2023) is hosted across Solar Protocol's network of solar powered servers and sent to your internet browser from whichever server is receiving the most sunshine. *Peckish* is a live updating, generative browser-based animation, in which a range of urban birds inhabit procedurally generated environments on different servers, and occasionally seek nourishment from objects and organisms they encounter. True to its name, the work scrimps on

energy expenditure by enforcing a no-media approach to web design inspired by the resilience and resourcefulness of city-dwelling birds. The visuals render differently based on available solar energy and the active server location's time of day. As birds peck, they affect the scene camera and playfully undermine the dominance of the English language and the authority of names for birds and land. Co-programmed in p5.js with Joe McKay. *Cosmic WildflowARs* (2022) is an immersive augmented reality app for phone browsers. A visit to an arboretum is a cosmic homecoming. At once welcoming and restorative, the arboretum is a living archive that contains patterns, rhythms, and cycles of the universe. Amid the geometry and vibrations are human routines of attention and care. *Cosmic Wildflower* proposes an interplay between our screens and our surroundings that includes rather than separates us from nature, mixing the reality of our screens with the reality of our surroundings. Tap your screen to spread augmented wildflowers in your physical surroundings and a digital interloper may take you for a flower. Walk up close and listen. Wildflowers hum with a human voice that resonates with the buzz of insects. *FLARMINGOS* (2017-present) is an interactive public augmented reality app invites participants to spawn virtual flamingo flocks, join them in solidarity, and sponsor IRL flamingos to support the stewarding of the wetlands they inhabit. *FIARmingos* are Augmented Reality flamingos that represent a colony of IRL flamingos I sponsor through a wetlands conservation initiative. They are a hybrid human-flamingo-AI species, supported with scientific research on flamingo courtship displays, influenced by flamingo intelligence, and animated by human motion capture and an artificial intelligence flocking algorithm. They perform flamingo courtship displays and are programmed to influence each other's behaviour. Audience can snap photos and video, listen to flamingo-inspired music, pick up flamingo dance moves and join them in interspecies solidarity. *FLARMINGOS* (2023) is an interactive installation that encourages audience to collaborate on introducing a flock of virtual flamingos. The installation innovates shared reality across two iPads.

### Lucas, Kristin

Kristin Lucas is an interdisciplinary artist who explores boundaries and entanglements of systems and paradigms. She intervenes to question, imagine, and prototype participatory alternatives often in collaboration with audiences, designers, developers, and scientists. Her work

across genres of media art, network art, mixed reality and performance is informed by feminist and queer theory, environmental and multispecies justice. Lucas is an associate professor of Studio Art and a Digital Humanities Faculty Fellow at University of Texas at Austin. Her recent work has been presented in art exhibitions including *Wave-Particle Duality: Sympathetic Vibration (Resonance)* as a part of *Changwon Sculpture Biennale Channel 2022*, *I'll Be Your Mirror: Art and the Digital Screen* at *Modern Art Museum of Fort Worth*, and *Sun Thinking on Solar Protocol's solar internet platform*.

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## Lamellae Osmosis

Iridescence, one of the most illustrative forms of structural color, occurs in various species of Lepidoptera and the functional reasons for this morphology are partially understood yet in many cases this functionality remains a mystery. The mechanisms for creating these structural colors can be extremely varied through species with unique nanoarchitectures that select and sort specific wavelengths of light, and produce vivid, changing colors. The artist's baseline research, done on several species of the blue morpho butterfly, started in 1993, and continued in a larger chapter from 2009 to 2013 when conducting research with a biophotonics expert Dr. Pete Vukusic at the University of Exeter, UK.

Even though there has been continued biophysics research around the mechanisms and function of structural color, there is yet much more to deduce as to the reasons for this phenomenon. Thus far, the associated functions are understood as roles in signaling or communications for mating selection, advertising, camouflage regards predators, and assorted reasons to secure evolution and species survival. With many questions left unanswered this presentation and project sets up parameters for discovery.

Some methodologies in these photonic nanostructures create diffraction, coherence and scattering of light via the nanoscale chitin lamellae whose thickness can be tuned as a mechanism to create structural color. The variation in thickness of lamellae creating color diversity distinguishes specimen's sex and species. Encoded genes effect the thickness of the chitin lamellae and thus determine the final color produced. This tuning of the lamellae thickness by nature's ingenuity has direct parallel



to tuning a dichromate hologram for desired color by expanding or shrinking the film fringes during processing. This presentation desires to shed light on the evolutionary and genetic developments creating these morphologies.

The research intended involves a comparative study of a variety of iridescent Lepidoptera species and their nanoarchitectures creating structural color, to then be 3-D printed in an increased scale for study as well as exploration unique properties. 3-D computer rendering of the morphological nanoarchitectures and via scanning electron microscope images would be accomplished from a variety of biological specimens. From these renderings 3-D rapid prototype prints scaled up 50 times would be printed. Generating several blown-up portions of these biological specimens illustrating their structural color methodologies and into 3-D, allows comparisons that potentially provide novel understandings.

A final phase entails selection of one computer 3D nanoarchitecture rendering (one specimen) and decreasing its scale to ultraviolet wavelengths. This nanoarchitecture rendering would be 3D printed into a polymer film using current micromanufacturing methods, with the end result being a sheet of film that when lit with sunlight would generate a powerful directional ultraviolet light. Knowing that UV light purification will remove bacteria and microorganisms from damaged water, experimentation can unfold with methods to wrap this film around glass tubes containing polluted water and left outside allowing the sun to activate the UV purifying process. This presentation reveals embodied exploration of invisible nanoarchitectures, and explores Lepidopteran beauty to bioremediate water, returning it to its sanctified place.

### MacArthur, Ana

Ana MacArthur's trans-disciplinary art practice functions as a creative catalyst by revealing nature's processes and connected metaphors through the lenses of life's relationship to light, environmental intelligence, and appropriate technology. MacArthur's engagement with light and environmental work has focused on biodiversity preservation via collaborating with a range of scientists in photonics, entomology, conservation and developmental biology. After co-founding one of the very few dichromate holography labs in the world from which she generated diverse artworks, MacArthur's practice immersed deeper into biological research, successive trainings with the Biomimicry Institute, and innovative pedagogy in

environmental education, all to catalyze significant change. In early 2000's hired by Sandia National Laboratories in their photonics education group, she developed a STEAM environmental awareness curriculum. She has exhibited and lectured internationally, and her artworks are in assorted public and private collections including the MIT Museum. Writings about her work have been published in multiple sources including LAND/ ART by Radius Books, The Creative Holography Index, and SPIE. Many awards and residencies have supported her investigations including a fellowship with Dr Markus Buehler, an MIT bio-inspired materials scientist. She holds an MFA in Creative Practice from Transart Institute, University of Plymouth, Plymouth. UK.

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## Imaginary Spaces: Bioart, Microscopy and Animation

As a child, I fondly spent summer days at my nonna's house, sitting in the backyard garden, imagining the fairies and little creatures that lived among the tall grass. To this day, I still think about those blades of grass, wondering if those fairies and little creatures still exist. They're harder to find now that I am older. Perhaps I may not be looking hard enough.

I am an Intermedia Artist and Arts Educator exploring topics between nature, technology, art and education. Working across digital media, animation and bioart practices, I create imaginary spaces with microscopic landscapes, characters, and alter egos. These imaginings and animations reflect and interrogate my experience of human and non-human narratives, activating our understanding of our relationship with nature.

In Spring 2023, I will develop new works as the INCUBATOR Art Lab Alumni Artist in Residence. The primary objective of this residency will be to explore notions of biophobia through a series of microscopic animations. I will experiment by gathering specimens from my local environment, including the woodlands I frequently visit, the river and bodies of water surrounding my community, my garden, and those blades of grass in my nonna's backyard. I will explore the beauty and repulsion of the microscopic biological world with these collected samples. In terms of public engagement, I will develop a stop-motion workshop at the INCUBATOR Art Lab Studio and a screening event during the residency. For FEMeeting 2023, I will present the animations

created during the residency, the research findings from the stop-motion workshop and examples of creative methodologies in interdisciplinary education.

### Mediati, Domenica

Domenica Mediati is an emerging Intermedia Artist and a Sessional Instructor in the Faculty of Education and School of Creative Arts at the University of Windsor. She has a Bachelor of Fine Arts from the University of Windsor and a Master of Fine Arts from Wayne State University. Domenica Mediati works across traditional painting and drawing, digital animation and bioart practices. Over the past four years, Domenica has been a lead team member at INCUBATOR Art Lab, a bioart laboratory and studio in Windsor, Ontario, Canada. She serves as a creative and intellectual collaborator on INCUBATOR Art Lab community engagement events and leads educational outreach programming.

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## The Ex-Utero Collective: Works In-progress

“Ex-Utero” is an exploration of the biological and sociopolitical possibilities of ectogenesis. In an ectogenic future with mechanized gestation, the placenta will become obsolete, a vestigial and ephemeral reproductive organ. Using a curiosity-based research methodology, we forge links between arts-based research practices and novel advances in regenerative medicine. The Ex-Utero Collective is studying the human placenta using state-of-the-art scientific protocols (fixation, MRI and CT scanning, perfusion, and cell culture). We are undertaking the decellularization of the entire placenta and seeding the extracellular matrices with foreign cell lines, yielding a myriad of creative responses. In this presentation, we will share research in-progress as we work towards a public exhibition. Our final goal is to design an immersive installation that will include multiple elements. Aspects of the exhibition will showcase visual documentation of the process as well as media and experimental films. The central component of the exhibition will be an interpretation of the placenta, an artwork that integrates traditional sculptural practices with living cell cultures. “Ex-Utero” will prompt questions and conversations about the socio-

cultural impact of ectogenesis, raise public awareness of current reproductive and neonatal technologies, and query the complicated future of human reproduction.

### Millett, Cristin

Straddling traditional disciplinary boundaries, Cristin Millett’s investigations of medicine and its history are integral to her artistic process. As a transdisciplinary artist, her work examines the intersection of art and science, specifically sculptural processes and reproductive futures. Her sculptural objects and installations prompt a contemporary cultural critique of societal issues surrounding reproduction and gender identity. Her artwork has been widely exhibited, including at the Villa Strozzi, Florence; the International Museum of Surgical Science, Chicago; the Exploratorium, San Francisco; and the Mutter Museum, Philadelphia. Millett is an Embedded Faculty Researcher in the Arts + Design Research Incubator and a Professor of Art in the School of Visual Arts at Penn State. In 2020, Millett was a Fulbright Senior Scholar and Resident at SymbioticA at the University of Western Australia.

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## Animating the Vitality of New Mexico's Alluvial Fans

Alluvial fans are beautiful cone-shaped deposits of sediment that form at the base of slopes where water flows down from higher elevations. They are commonly found in arid and semi-arid regions and are critical for supporting vegetation and biodiversity in these areas. Alluvial fans act as natural water catchments and store water in the soil; they are essential in creating a nutrient-rich environment that supports the growth of plant species to maintain healthy ecosystems, reduce soil erosion, and sequester carbon to mitigate the impacts of climate change.

Alluvial fans are often associated with water, which is a precious and beautiful resource in dry regions like New Mexico. Their presence can signify the potential for life and growth in an otherwise harsh environment. They are dynamic and unique features of the arid landscape. Through this research and art project, I am interested in not only the shifting patterns of water and sediment from an alluvial fan, but also capturing their beauty, allure, and dynamic character through imagery and animation.

My proposed talk will detail a three-month research and art project I am in the process of conducting in collaboration with Fort Union Ranch, located near Las Vegas, New Mexico. For the past five years, This 90,000-acre cattle ranch has been dedicated to restoring alluvial fans which are situated over a 2,000-acre area, with help from renowned ecologist Bill Zeedyk. During my time at Fort Union Ranch, I have the opportunity to walk and study the land with Zeedyk, and learn firsthand about the scientific process of rejuvenating alluvial fans to enhance water distribution on the ranch.

During the talk at FEMeeting, I will discuss my research and the animation artworks I create that document the alluvial fans at Fort Union Ranch. The animations composite the exterior of the alluvial fans with the contour and topographic mapping of the land to demonstrate the beauty and natural patterning of the water flow. The series of animations will highlight how water flow impacts the shape and size of the alluvial fan, and how restoring them can help combat climate change. A big part of this project is to highlight the importance of these natural resources and promote practices that support restoration and preservation of alluvial fans, in effort to contribute to a more sustainable and resilient future.

### Monico, Kelly

Kelly Monico is a visual artist who uses documentation and patterning as a means to investigate and better understand the environment, language, and human behavior. Monico decodes and visualizes information she collects as a way to make sense of how these elements interact and evolve over time. Her work has been featured in numerous national and international exhibitions at venues including, Boulder Museum of Contemporary Art (BMoCA); Design After Dark at The Denver Art Museum; and URB11 at the Kiasma Museum of Contemporary Art in Helsinki, Finland. She also was commissioned to exhibit a public artwork, titled Alley Cats, through the City of Denver which was installed in Downtown Denver, Colorado from 2018–2021. Kelly Monico is currently a Full Professor of Art at Metropolitan State University of Denver (MSU Denver) where she teaches Studio Art and Communication Design courses in the Department of Art. Monico received her MFA from the University of Denver (eMAD) and a BA from the University of Minnesota, Minneapolis.

## The Piñon Project

The Piñon Project explores the ecological and cultural resonance of piñon pine (*Pinus edulis*) in New Mexico and contends with its potential extinction due to climate change and the co-extinction of its vital mycorrhizal fungal partner, *Geopora pinyonensis*. Centering the nuances of co-extinction, or plant anachronisms, this project connects emerging science with zine-making, multimedia collage, mythmaking, installation, and piñon seedling germination to advocate for community-supported change and repair. This project is an emplaced, tangible, community science approach to the onslaught of grief and uncertainty experienced when a vital member of our ecological community begins to suffer.

Piñon is a vital species of New Mexico's ecology and culture, providing nourishment and kinship for myriad symbionts for millennia. Anthropogenic climate-related threats—drought, warming temperatures, bark beetle—are intensifying pressures on piñon to adapt at a speed incomprehensibly fast through the perspective of the tree. Recent science has realized the piñon seedling establishment and survival depend upon its mutualistic partnership with *Geopora pinyonensis*, a species of mycorrhizal fungus, who assists the plants with water and nutrient retention that are especially vital in its early development. However, this invisible species is also facing extinction due to intense drought and warming soil. These compounding issues have caused over 2.5 million acres of piñon mortality since the 1950s. At this current rate, piñon is expected to go extinct in the next 80 years.

Research suggests that piñon's compatible mycorrhizal fungi will wait in soils where piñon is extirpated for around a decade. This is hopeful news for restoration of sites of recent piñon mortality, but it also means that the assisted migration to predicted future piñon ranges necessitates that soils are inoculated with piñon's symbiotic fungal partner before being planted in higher elevations. Piñon-juniper woodland plant communities are understood and managed through diverse ecocultural storytelling, offering key clues on how to contend with climate disruption—for example, the importance of mycorrhizal partners, or indeed all partners and community, for survival and assisted migration.

Our proposed presentation for FEMeeting would discuss our research and demonstrate our in-process project which takes two overarching "forms," to research, explore, and facilitate education and engagement with piñon. The first, is the creation of a zine or small, self-published book which documents our process, scientific

research, and shares community stories, recipes, songs, and poetry. The second is the construction of a mobile greenhouse “gallery” where we will be cultivating piñon seedlings and traveling directly to communities to share germination processes and stories. Implicit in all forms of this project is storytelling as a methodology for maintaining sustainable ecocultures and ecosystems.

### **Bryson, Kaitlin**

The Submergence Collective is a mutually obligate, ever evolving, (sometimes decaying) art and ecology research collective co-founded in 2019 by Kaitlin Bryson, Hollis Moore, Mariko Oyama Thomas, and Rachel Zollinger. Our transdisciplinary projects strive to imagine and facilitate more collaborative, radically hopeful possibilities for our human species and the rest of the living and dying world. From visual artworks to written works, we are focused on generating material that participates with(in) our global ecology and offers healing, reparation and change for more sustainable and interconnected futures among species. As a multidisciplinary team, our members are highly trained in pedagogical theory, qualitative research, studio art practices, and ecological design and restoration. We have lectured and taught workshops nationally and internationally with notable institutions including SUNY Buffalo, NY; the University of Arizona, AZ; the University of New South Wales, Australia; Dartington College, United Kingdom; and at The Politics of the Machine Conference in Berlin, Germany. Our work has been published in *The Journal of Research in Art and Education* (Finland), with an upcoming publication for the Centre of Sustainable Practices of the Arts (Canada). We have done ecologically restorative projects in Nepal, México, and the U.S., and have exhibited our artwork at 516 Arts and Harwood Gallery in Albuquerque, NM.

### **Oyama Thomas, Mariko**

Mariko Oyama Thomas Ph.D. is a writer, instructor, and independent scholar currently living in the mountains of New Mexico. She has an M.S. in Communication and Research from Portland State University (2013) and a Ph.D. from University of New Mexico in Environmental and Intercultural Communication (2019) as well as a background in creative writing and performance. Her research interests are largely focused on plant-human relationships, environmental justice and racism, and more-than-human

communication, with a methodological focus on oral history and storytelling.

### **Zollinger, Rachel**

Rachel Zollinger is an interdisciplinary artist, educator, and PhD candidate in Art & Visual Culture Education at the University of Arizona. She has worked extensively in community spaces, museums, and other informal learning sites developing and facilitating arts integration curriculum and environmental education programming. Her current research focuses on children’s drawing practices in science-informed environmental learning settings and multidisciplinary approaches to ecocultural literacy. Her place-based art practice uses drawing, installation, performance, and writing media to address and explore land use, climate, and multispecies relationships.

### **Moore, Hollis**

Hollis Moore, Submergence Collective, hollismoore@gmail.com, www.hollismoore.com  
Hollis is an artist and landscape designer living in Albuquerque, NM, within the historic floodplains of the Middle Rio Grande. Her practice focuses on researching the possibilities of ecological restoration for damaged arid lands with methods of counter-mapping. She responds with art and design that make visible and work with the encounters of multiple species- including plants, animals, fungi, and human communities- living within shifting landscape assemblages. Hollis works as a Southwest Seed Partnership Technician at the Institute for Applied Ecology and holds an MLA and MFA from the University of New Mexico.

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## **Étalon – a performative walk in search of the meter**

In 1792 two French astronomers were given an ambitious task: to traverse an arc inscribed on the surface of the Earth, surveying both the land beneath and the sky above in order to measure the curvature of the Earth and determine a new ‘universal standard’ – Le Mètre-étalon; the meter. They used this data to define the meter as a ‘natural’ standard: one-ten-millionth of the distance from the North Pole to the Equator. This

was a new kind of metric; borne neither of politics, nor the aristocracy, it was instead drawn from the Earth itself.

In 2018 I staged a 112-day / 1,300-mile performative walk that retraced the genesis of this journey and the meter as an Earth-bound metric. Accompanied by a team of female artists I traversed the length of the Paris meridian from Dunkerque to Barcelona, pausing daily to observe, document, and enact a performative 'remeasuring' the Earth's circumference, in order to derive a new 'meter' length from my own physical action. The work – entitled *étalon* (from the French term meaning both standard of measurement and stallion) is both a study of length and the lengths taken by science in order to establish a standard, and how these standards can be examined and eschewed in the pursuit of art. As a physical, emotional and conceptual postulate, *étalon* examines the lived action of measurement and scientific exploration through the female body (and the female gaze) – underscoring a perspective distinctly lacking within historical scientific narratives.

This presentation will overview the conception, staging and subsequent exhibition of this performative work and the historical scientific undertaking upon which it is based. I will also situate the underlying methodological approach within the context of my theoretical research, that considers the performative nature of the experimental activities, and their adaption into conceptual and post-conceptual artistic practices. In doing so I will introduce two conceptual constructs to facilitate a unified analysis of experimental systems: The Performative Action – that represents a methodologically-driven physical activity (one that is systematic, process-based and experimental in nature) and Performative Artefacts – that are, as Kristine Stiles suggests, objects borne "out of actions" – innately tied to the essence of their construction, existing both of and from performance.

### Morawetz, Sara

Sara Morawetz is a conceptual artist (born in Newcastle, Australia, based in Santa Fe, New Mexico) whose interdisciplinary practice reflects critically and poetically on the matter and methods of science. Interested in systems and structures that measure experience, her work routinely investigates the mechanics of measuring time and distance – exploring how these systems convey precision, accuracy and determinacy, yet remain slippery, speculative and whimsical when 'tested in the field.'

Sara's work has been exhibited across Australia and Internationally, including exhibitions at the Musée des Arts et Métiers (France), Australian Consulate-General New York, RAPID PULSE International Performing Arts Festival (USA), Open Source Gallery (USA), Contemporary Art Galleries, University of Connecticut (USA), The Lock-Up (Australia) and Dominik Mersch Gallery (Australia).

Sara was awarded her Ph.D. from the University of Sydney in 2021 and has received numerous awards and prizes including: 'the churchie' National Emerging Art Prize, the Vida Lahey Memorial Travelling Scholarship, the Moya Dyring Studio Scholarship, the Terrence and Lynette Fern Cité International des Arts Fellowship, as well as project funding from the Australia Council for the Arts. Her work has been featured in publications including Frieze Magazine, Forbes Magazine, Scientific American, Aesthetica Magazine, Artist Profile and Prime: Arts Next Generation recently released by Phaidon Press

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## Centring Justice, Equity, Diversity, and Inclusion in SciComm

SciComm Collective (SCC) is a Canadian non-profit organization started in 2019 that aims to improve the accessibility of science by training researchers to engage in effective science communication. Our mandate centers on social justice, equity, diversity, and inclusion (EDI), and is informed by the experiences of people from Indigenous, Black, racialized, 2SLGBTQIA+, neurodivergent, disabled, and other marginalized communities. At SCC, our goals are to (1) CONNECT traditionally marginalized and/or underrepresented artists and scientists to produce science communication content and resources; (2) ENGAGE scientists and researchers in discussion and knowledge exchange surrounding EDI and social justice in science communication online, at events, at workshops and through partnerships with organizations that share similar goals and (3) CREATE resources on EDI and social justice in STEAM (science, technology, engineering, arts, mathematics) and science communication. In this presentation, we will discuss the work SCC has completed as part of a federally-funded grant from NSERC (Natural Sciences and Engineering Research Council of Canada) and what we are hoping to work on next. As of January 2022, we have organized a total of 7



events (3 in-person, 4 online), published 18 articles on our website, and collaborated with 14 visual artists. Combined, these events have engaged over 300 participants and garnered over 150k impressions on social media. Despite increasing access to information in our digitized world, science still remains largely inaccessible both within and outside of the scientific community. We hope to change this reality by promoting and training researchers to engage in effective science communication with diverse audiences, including the lay public. We are passionate about equity, diversity, inclusion (EDI), and social justice in STEAM and aim to make science accessible for everyone.

Abbey is co-director of the 'Engage' platform at SciComm Collective (SCC). In addition to SciComm collective, Abbey works as a curriculum development manager on an Indigenous health research project and as the Bioart Lab Technician at INCUBATOR Art Lab in Windsor, Ontario.

### Morris, Abbey

Abbey Morris is a Science Communicator. She earned her Master's of Science Communication from Laurentian University and her B.Sc. in Neuroscience and Mental Health with a minor in Psychology from Carleton University. Abbey works as a curriculum development manager on an Indigenous health research project and as the Bioart Lab Technician at INCUBATOR Art Lab in Windsor, Ontario. She is passionate about art and science and believes that science communication is the perfect way to bridge these interests. Abbey strives to make scicomm a more equitable, diverse, and inclusive space for people to share their enthusiasm for science in creative and engaging ways. Outside of work, Abbey enjoys bouldering, thrift shopping, and drawing flowers.

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## Psycho-sonic-geo Soundscapes

Psycho-sonic-geo soundscapes are samples from life reimagined and transformed into an atmospheric sonic environment composition. Listeners enter this audio-visual environment with their ears and eyes, allowing their imagination to take over. The data-bending visuals - derived from the audio tracks - aid listeners in crossing the threshold into their imagination of a series of Psycho-sonic-geo soundscapes.

### Neon, Jackie

Jackie Neon is an independent mixed media artist working in the sound art domain. Being neurodivergent and having grown up in New York City in a multicultural, bilingual household - Jackie developed a curiosity about the juxtaposition of identity and perception. As a result, identity and perception are recurring themes and inspirations in her work. Sonically, these themes - paired with psychoacoustics - are the driving force for her soundscapes. Jackie holds a BFA from The School of The Art Institute of Chicago and an MFA in Design and Technology from Parsons School of Design. Her background includes product design, education, and research.

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## Dark Skies and Nocturnal Animals

Modeling life at the micro, macro, and cosmic levels, the Dark Skies project is a multi-media immersive artwork inspired by dark sky spaces, defined by the International Dark Skies Association (IDSA) as "land possessing an exceptional or distinguished quality of starry nights and nocturnal environment[s]..." The obfuscation of the night sky due to the prevalence of artificial light in urban environments produces disorienting effects. Aside from the obvious psychological impact of not being able to perceive effectively and orient oneself by way of the night sky, light pollution has quantifiably dangerous effects, particularly with regard to the disruption of metabolic homeostasis in both humans and non-humans alike (National Library of Medicine).

The Dark Skies project is an iterative, ongoing endeavor that questions the future of the deep integration of life, light, darkness, and energy, which has developed over millennia. Offering a brilliant palette of vespertine skies, milky galaxies, and a polyphony of elemental and animal sounds and utterances, which seemingly translate unseeable phenomena into perceptible range, the work makes tangible the penetrating effects of nightfall across multiple scales of being, where the viewer's body is imbricated into a dynamic, interspecies world.

The 2019 iteration of Dark Skies, exhibited in UMWELT at the BioBAT Art Space in Brooklyn includes a projection wall modeled after the

prickly taste bud of a crepuscular creature—a wild mouse that is active at twilight—as a metaphorical pun on the notion of being swallowed by the universe. However, given the right angle and proximity, the visually ambiguous surface appears to fluctuate in scale between the microscopic and the gargantuan, between lingual papillae and a mountainous terrain from a very high altitude. Thus, the viewer's perception of their own bodily scale is unpredictable, caught up in an endless cycle of consuming and being consumed by the installation.

Dark Skies and Nocturnal Animals will discuss the Dark Skies project in relation to the pressing demands of climate change, adaptability, preservation, and impermanence in relationship to Ecofeminism (coined by the French writer Françoise d'Eaubonne in 1974) and Ecocriticism (coined in 1978 by author William Rueckert and discussed later by author Ursula K. Heise). Drawing together gender, politics, and environmentalism to consider the relationship between the degradation of the night sky and its effect on women in particular, this talk will examine the multiple ways in which we impact and are impacted by a complex cosmic assemblage that is both seductive and dangerous, and how we can pivot away from “art understood as representation toward art understood as an operative tool that models life in more or less conspicuous ways” (Cristina Albu and Dawna Schuld: *Beside Ourselves*). Given that New Mexico and the region around Taos contains multiple dark skies sites and sanctuaries, this talk is particularly fitting for FEMeeting 2023.

### **Olynyk, Patricia**

Patricia Olynyk's practice investigates science and technology-related themes and the ways in which social systems and institutional structures shape our understanding of the world around us. Collaborating with scientists, humanists, and technology specialists, she produces discreet works and multimedia environments that explore the phenomenology of perception, probe the fictitious notion of the human taxonomy, or call upon viewers to expand their awareness of the environments they inhabit.

Olynyk received her MFA with Distinction from the California College of the Arts and spent four years as a Monbusho Scholar and Tokyu Foundation Research Scholar in Japan. She has held fellowships and residencies at the Banff Center for the Arts, Villa Montalvo, the College of Physicians, Philadelphia, and the Naturhistorisches Museum, Vienna. Her work has been featured in the Los Angeles International Biennial, CYLAND Media Festival, St. Petersburg,

Venice Design at Palazzo Michiel dalle Colonne, the Los Angeles International Biennial, The Brooklyn Museum, the Saitama Modern Art Museum, and in solo exhibitions at the National Academy of Sciences, UCLA's Art/Sci Gallery, and Galeria Grafica, Tokyo. Olynyk's writing has been featured in *Public Journal*, the *Routledge Companion to Biology in Art and Architecture*, *Technoetic Arts*, *Leonardo Journal*, and *Bio/Matter/Techno Synthetics* (Actar Publishing).

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## **The Decolonial Mycelial Mess Kit: Bringing Ceremony and Mycoremediation to the Table**

The Decolonial Mycelial Mess Kit makes possible a portable engagement between humans and mycelia. The kit unites the ontological social talents of Oyster Mushrooms with the ancient, world-making mythologies of spinning and weaving. This kit contains living mycelial weavings and everything needed to encounter them. Rather than encouraging a tiny and tidy individual rationed meal, this kit facilitates an uncontainable ceremony for metabolizing the colonial and capitalist mess we are in.

Grounded in eco-materialism, multispecies storytelling, and decolonial practices, these weavings interrogate the idea of biological individuality. This questioning begins with a cross-species creative team in which kinship is the basis of the material artistic relationships. The human raises the sheep that provide the wool for the weavings, and she also grows and forages the dye plants that give the weavings a range of colors. The mycelia drives the life cycle of the sculptural weavings and decides how to adorn the cloth by fruiting its charismatic mushrooms within the woven structures. The mycelia and human both work with soil organisms in the context of a dye and herb garden. The garden floor is the site of the decomposition and digestion of these weavings after they have been used in workshops. This is art made by an interspecies “we” with all the questions, complexities and potential for pitfalls that comes with such a condition.

Drawing on the research strategies and cartographies from the Gesturing Towards Decolonial Futures collective, as well as ancestral

European pagan traditions, this experimental weaving technology has produced public workshops since 2019 in sites as small as urban community gardens and as large as the Farm Aid concert series. Workshop participants engage with these mycelial weavings to stretch their sensory capacities in silent facilitated encounters. The participant feedback from these workshops suggests that the process of relating with these weavings may help build new neural pathways for reconnecting with one's holobiont bodily community, as well as the expansive mycelial foundations of life on planet Earth.

In this most recent investigation, Carol Padberg and her creative interspecies team use the device of the Mess Kit to further explore the false colonial narratives of individuality and separability. Mess Kits were originally created for military use by colonial powers, and emphasize individual and militarized self-sufficiency relating to food. By transforming this nested format through the inclusion of a witches' magic circle, as well as through the presence of the uncontainable body of the mycelia, the team creates a portable pedagogical device. The critical reframing of the mess kit proposes interspecies approaches to metabolizing the roots of colonial harms by using messages written on plastics that are shredded and offered for mycelial metabolic digestion. The results of this experimental meal reinforces a kinship worldview while bringing bioremediation to the table.

### Padberg, Carol

Carol Padberg is an artist, writer, educator and founding director of the Nomad MFA. She is now a Co-Director, with Mary Mattingly, of the Low-Residency Concentration within the MFA in Studio Arts at the University of New Mexico. Carol Padberg's art has been the subject of exhibitions at the Minneapolis Institute of the Arts and the New Britain Museum of American Art. Carol weaves in collaboration with living Oyster mushrooms and is exploring their plastic digesting capacities. Activating regenerative agricultural strategies, she raises sheep on a farm in Northern New Mexico, where she lives. Making art in conversation with Oyster mushrooms, dye plants, soil organisms and sheep is Carol's way of participating in the creative vortex of the planet's vitality and intelligence. Her research explores these interspecies narratives and relates them to currents of thought in ecofeminism, earth-based wisdom traditions, the post-humanities and contemporary art. Her work has been featured at the Walker Art Center, MoMA, and the Creative Time Summit at the Venice Biennale. Recent

papers and presentations have been disseminated by the Social Theory in Art Education Journal; the Center for Sustainable Practice in the Arts Quarterly; STREAMS: Transformative Environmental Humanities Conference, Stockholm; the InSEA European Congress, Aalto University; the Multispecies Storytelling Conference, Linnaeus University. She was the keynote speaker at the Imaginative Futures: Arts Based Research as Boundary Event Symposium, Arizona State University. Carol Padberg's recent writings can be found in two new anthologies- Multispecies Storytelling in Intermedial Practices (Punctum Press, 2022) and EcoArt in Action: Activities, Case Studies and Provocations for Classrooms and Communities (NYU Press, 2022).

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## Observation and Sensing

Most of us move through life without noticing the complex phenomena that make our lives on earth possible. The states of matter we are made of and that surround us; surface tension of liquids; reflection, absorption, diffusion and diffraction of light; electric, geomagnetic, and electromagnetic fields and other phenomena shape us and our environment, yet are often invisible, or unseen. My curiosity about these phenomena drives my work. I explore basic concepts attempting to reveal them in ways we normally don't perceive them, making them evident on a deeper level. These basic phenomena apply to biological life and the physical world around us at all levels from the macro down to the micro and beyond. Fellow organisms that display what appear to be superpowers are especially appealing to work with, opening observers eyes to the state of the world around us. My recent work has included fungi, slime molds, and tardigrades, three celebrities of the microbiological world that exhibit star qualities humans could only hope to acquire, and that may hold keys to a better future.

### Pilling, Amy

Scientific, artistic, and intuitive exploration of the environment guide Pilling's creative practice. Numerous natural forces and fields make our existence, and, in fact, life on earth possible, yet are not evident to us. Curiosity about these hidden forces and fields drives her choice of the physical materials, phenomena, fellow living beings, and forms her work explores. Amy focuses

on perception and optics, making structures from invisible fields, plastics in the environment, and alternative intelligences in nature, especially in smaller, often overlooked life forms such as insects and microorganisms. As a permaculture designer having grown up in a multi-species environment, a deep fascination and respect for all species guides her creative process. She especially loves learning from collective organisms such as bees and slime molds. Pilling has worked as an educator and curriculum or program developer with University of New Mexico, SciArt Santa Fe, AmeriCorps VISTA, Santa Fe Community College, EcoVersity, New Mexico Bioneers, and Permaculture Drylands Institute over the years. She currently teaches the lab section of a BioArt and Design class at the University of New Mexico and develops STEAM education programs for New Mexico Museum of Natural History and Science and other organizations.

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## Counting Breaths: Data-Driven Memorials for Healing and Environmental Justice

My public artworks raise public awareness of climate change and other complex environmental and social issues. Often, I use technology to express atmospheric science-related data. Air and atmosphere have been metaphors for soul and spirit throughout art history - from religious iconography across cultures to more recent works of Yves Klein, Hans Haacke and others who integrated air, wind and other ephemeral materials into sculptures.

This presentation will ask how art might memorialize catastrophic environmental events with shifting boundaries to provide a framework for public artworks that express: The fragility of life through the atmosphere/air we breathe Materials and actions invisible to the human eye Emergent personal stories of ongoing catastrophic events Technology as a bridge between breath on an emotional level and air on a geologic scale

### Polli, Andrea

Andrea Polli is an environmental artist working at the intersection of art, science and technology. Her interdisciplinary research has been presented

as public artworks, media installations, community projects, performances, broadcasts, mobile and geolocate media, publications, and through the curation and organization of public exhibitions and events. She creates artworks designed to raise awareness of environmental issues. Often these works express scientific data obtained through her collaborations with scientists and engineers and have taken the form of sound art, vehicle-based works, public light works, mobile media experiences, and bio-art and design. Polli holds an MFA in Time Arts from the School of the Art Institute of Chicago and a PhD in practice-led research from the University of Plymouth in the UK. Polli is a Professor with appointments in the College of Fine Arts and School of Engineering at the University of New Mexico (UNM). She holds the Mesa Del Sol Endowed Chair of Digital Media and directs the Social Media Workgroup, a lab at the University's Center for Advanced Research Computing. As an educator, Polli has created student-centered professional development, theory, practice and field-based courses and experiences for practicing artists, engineers and makers.

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## Tending Ostreidae: Serenades for Settling: Ungrounding our Terrestrial Senses

As earth's environment becomes increasingly unstable, due in part to human hegemonic patterns of Otherness and extraction, it is apparent that we must nurture different means to sustainably be with our ecosystems. But how do we shift dominant modes of engagement with our fellow earth inhabitants? How can we negate habits that separate us and reify extractive mindsets? And how can we restoratively acknowledge and contemplate our imbricated entanglements and activate co-tending schema for those who are divorced from their embeddedness? For this talk we will explore how we've addressed these questions through creative research as a restorative method that contemplates and engages more equitable and symbiotic relationships. Our research is grounded in our project Tending Ostreidae: Serenades for Settling (TOSS), a multimedia speculative operetta and community science project that investigates and communicates the impact of anthropogenic noise on oysters. We will discuss TOSS as a critical intervention that triangulates

feminist post-anthropocentric research across the arts, humanities and social sciences that destabilizes normative research practices. We will address our adaptations of sound and non-cochlear listening, along with visual and haptic components, as critical tactics that accentuate situated knowledges, relational and emergent dynamics and embedded sensory exploration. These values are aligned with feminist and Native American critical scholars and, when privileged, intervene on systems that perpetuate human/nature divides. In addition, we will share our adaptations of technologies that aid non-cochlear engagements with sound to acquaint us with the multivalent bioacoustics means that more-than-human beings engage with. Finally, we will conclude that TOSS holds the capacity to effectively shift our terrestrial sense to an aquatic sense and amplify our polyphonic being, leading us to schemas that tend to our heterogenous existence.

### **Rothenberg, Stephanie**

Stephanie Rothenberg's interdisciplinary art draws from digital culture, science and economics to explore symbiotic relationships between human designed systems and biological ecosystems. Moving between real and virtual spaces, she engages a variety of media platforms that include interactive installation, drawing, sculpture, video and performance. She has exhibited internationally in venues and festivals including MassMOCA (US), Sundance Film Festival (US), House of Electronic Arts / HeK (CH), LABoral (ES), Transmediale (DE), and ZKM Center for Art & Media (DE). She has received awards from Harpo Foundation and Creative Capital among others and has participated in numerous residencies including Lower Manhattan Cultural Council Workspace/LMCC and Eyebeam Art and Technology Center in NYC, Santa Fe Art Institute, and ZK/U in Berlin. Her work is in the collection of the Whitney Museum of American Art and has been widely reviewed including Artforum, Artnet, The Brooklyn Rail and Hyperallergic. She is Professor in the Department of Art at University at Buffalo SUNY where she co-directs the Platform Social Design Lab, an interdisciplinary design studio collaborating with local social justice organizations.

### **Thorpe, Suzanne**

Suzanne Thorpe is a performer, sound artist and scholar whose creative research intersects electronic music, feminist and ecological theory.

She couples critical listening practices with acoustic ecology, improvisation and technology to craft immersive sound engagements that question circulations of power within human and nonhuman systems. She has performed and exhibited internationally and is the recipient of residencies and awards such as the Frog Peak Collective Award for innovative research in technology, the New Works Residency at Harvestworks Digital Media Foundation, and grants from New Music USA, the MAP Fund and the Recording Industry Association of America. Thorpe holds an MFA in Electronic Music & Media from Mills College, a Ph.D. in Integrative Studies from the University of California, San Diego, and recently held a Postdoctoral position at Columbia University where she was also a member of the Society of Fellows. She is currently Visiting Assistant Professor of Sound Studies at Manhattan College, and remains a co-founder and director of TECHNE, a nonprofit arts-education organization dedicated to dismantling social and cultural barriers in technical learning environments.

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## **Music Composition Systems for Listening to Insect Relations**

At FEMeeting I will present a discussion and audio/video documentation of my artistic research on insect acoustic relations. I will focus on my ongoing research on the development of music composition systems to facilitate our understanding of ants and other insects through listening. This practice of speculative bioacoustics music composition uses methods based in ecological research and observation to create representations of cryptic soundscapes. This work aspires towards hearing and listening to sounds we have not heard before; I am focusing on cryptic insect sounds such as substrate-borne vibration, ultrasonic sounds above the frequency limit of human hearing, exceptionally quiet sounds, and spatially inaccessible sound. These music composition systems have modular components that can be adjusted due to soundscape and insect activity. Inspired by the work of composer David Dunn, I am layering interactions of sound through repeated processes of playback, recording, processing, modulation, and routing to develop speculative representations concerning present and future sonic insect relations. These compositions are generated in real time in the field and can be



recorded as fixed compositions. Select fixed recordings will be arranged for performance by percussion and electronic ensemble.

My work also builds on visual artist Pinar Yoldas' practice of "speculative biology," and her imagined future organisms that evolve to digest ocean plastic. Speculative bioacoustics music composition applies this approach to the sonic realm, engaging with insect sound alongside the realities of human-produced sound (anthrophony) that has become a common component of insect sound-worlds. Through engagement with these systems, I am considering possibilities of interspecific ecoacoustics in the present, and of future sonic adaptations to habitat change, species shifts, and associated changes in the soundscape. As part of my research I have been writing text scores to guide listener interaction with the eventual installations. Inspired by composer Pauline Oliveros' text score practice, listeners will be prompted to listen, make sound, and/or auralize (sound in the mind) in response to questions about their relationship with insects. Through this work I hope to challenge misconceptions of insects, affirm their intrinsic value, and engage people in noticing insects in their daily lives.

### Schonberg, Lisa

Lisa Schonberg is a composer and percussionist creating sound works based in ecological research. Informed by her background in entomology, Schonberg is interested how these sound works can reveal and challenge assumptions about insects and other overlooked and/or avoided nonhumans. She is curious about how insect agency can be revealed sonically through spatialization and symbioses. Since 2017 she has been collaborating with Brazilian entomologists on ATTA (Amplifying the Tropical Ants), a project investigating ant bioacoustics in the Amazon. Other recent work includes investigations of old-growth forests in Oregon, endangered Hawaiian Hylaeus bees, mushrooms, and plastics. Schonberg's compositions are performed by percussion ensembles Secret Drum Band, Antenna and UAU. She is the author of Text Scores for Getting to Know the Invertebrates, The Hylaeus Project, and the The DIY Guide to Drums, and has presented work at FILE Festival (BR), TBA Festival, Pompidou, Brooklyn Museum, Bosque da Ciencia (BR), American Museum of Natural History, and Museo Reina Sofia (SP). She has completed residencies with Labverde, the Banff Centre, Pioneerworks, HJ Andrews Experimental Station, and Signal Fire. Her work has been supported by the Oregon Arts Commission, Regional Arts and Culture

Commission (OR), & The Andy Warhol Foundation for the Visual Arts.

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## Visualizing STEM

Fermilab National Accelerator Laboratory located just outside Batavia, Illinois, near Chicago, is a United States Department of Energy National Laboratory specializing in high-energy particle physics. The connection of art and science is deeply rooted at Fermilab. In 1967 Robert Wilson accepted the position as director, he was an artist and physicist. The 11th hired employee, was Angela Gonzales her title was artist-in-residence, and for 30 years she worked at the lab creating a unique visual identity. The environment was established to foster creative and independent thinkers. Fast forward to 2000, over the years the art gallery, Arts & Lecture Series and interdisciplinary programming became more expansive. The artist-in-residence program approved, and Guest Composer program added due to the large number of submissions from international and nation creative people. We are currently working on ways of integrating further into upcoming programs.

### Schwender, Georgia

Georgia Schwender has been the visual arts coordinator at Fermilab National Laboratory since 2001, curating and coordinating over 100 exhibits. She established the artist-in-residence program in 2014, added the Guest Composer program in 2000 and both continue to grow. Her objective is helping others achieve their potential and always reaching for hers. Outside of Fermilab she is primarily a photographer and claymaker, with photography, specializing in the alternative and historic processes in photography and with clay finding the center. Her creative spirit and fascination with the natural world fuels her interest in the connections between art and science.

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## Artist Presentation: Uncanny Territory: The Topography of Ruin, Decay and Regeneration

In my interdisciplinary art practice, my curiosity lies in exploring the boundaries of image-making, using emergent technologies that engage experimental processes and integrate still and time-based visual technologies

I explore the process of fracturing, remaking, recontextualizing landscapes as representations of imagined territory, and emulate the mediation of a technological lens as the site of surveyed and surveilled, creating a fictionalized space between time and site. Conceptually, I seek to question our present ecological imperialism by portraying photography's relationship to scientific "seeing" by mimicking satellite, microscopic and telescopic perspectives to encourage divergent thinking about the planet we live on.

For context: My early work began as a reaction to the military acts that occurred after 9/11 and the way that imaging technology was used in military contexts, for example early versions of satellites and drones how manufactured "images", data collections, functioned as tools of colonization and control by government. I appropriated satellite images of war zones, footage from satellite data as well as my own source images to construct landscapes that implied technical seeing as a means of control. These fabricated landscapes did not represent an array of places that one might visit, but a configuration of political and economic forces.

In my recent body of work *Uncanny Territory: The Topography of Ruin, Decay and Regeneration*, I explore the idea of place-making and place shifting to capture the ebb and flow of territory, creating fictional future typographies to generate a dialog about ecological disaster that question ways the environment has been shaped and reshaped by human activity and how places can become uncanny and uncanny places can become home.

### Seideneck, Natascha

Natascha Seideneck is from Germany, grew up in England and lives in Denver, Colorado. She holds an MFA from Tufts University and is currently an Associate Professor of Art at Metro State University of Denver. Natascha exhibits her work extensively and has produced numerous site-specific artworks, often collaborating with artists, designers, and architects. Her work is interdisciplinary, often engaging in experimental processes that integrate still and time-based visual technologies.

## Confessional Kiosk

Confessional Kiosk examines religion as a social domain in which automated decision-making becomes morally questionable by administering automated technology within a highly repetitive catholic environment.

As artificial intelligence moves towards intelligent reasoning, it is also moving toward the divine. Confessional Kiosk questions the social implications and consequences of algorithmic decision-making within a religious setting. It is plausible that elements of catholicism could be facilitated by computers. This application of AI, would have great social, moral and ethical ramifications. Though AI and religion sit in stark opposition to one another (fact versus faith), they operate similarly in the minds of many. Both rely on and grow stronger from learned behaviors and repetition. They are simultaneously unintelligible and all knowing. By implementing AI to absolve viewers of their sins, I question the authority of machine learning while promoting a dialogue around the creation of ethical and responsible artificial intelligence in an experiential and interactive way.

Confessional Kiosk has been trained with traditional responses for specific sins to create its own coherent penance. Sinners enter into the booth through a red velvet curtain. The confessional screen is replaced by the screen of a digital tablet, the priest by artificial intelligence. When prompted to "enter sin" the viewer enters their transgressions and their confessor automates their penance. The anonymity of confessing to a machine allows for a more forthright examination of conscious. As the priest stands in as a representative of God, by replacing the priest with AI, the machine becomes God himself.

### Smith, Kaitlyn

Kaitlyn Jo Smith's interdisciplinary studio research considers the implications of automation on labor and religion in relation to America's working class. Through the implementation of automated technologies and machine learning, her work questions the authority of algorithms while promoting a dialogue around future applications of artificial intelligence. Smith's work has been shown nationally and internationally. She was longlisted for the 2021 Lumen Prize in Art and Technology (London) and received the College Art Association's Services to Artists Committee

Award for her video *Lights Out*. Smith has been featured in PDNedu, Art IDEAL, and *AI-Tiba9 Magazine* (Barcelona). She has presented her work at FEMeeting: Women in Art, Science & Technology (Évora); and Technarte International Conference on Art and Technology. She will also be speaking in at Homecoming, Society for Photographic Education Annual National Conference (Denver).

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## Sticky Settings: Ambient Portals in the Genetic Landscape—Artist Talk by Laura Splan

In “Sticky Settings: Ambient Portals in the Genetic Landscape”, interdisciplinary artist Laura Splan presents recent work exploring computational, virtual, and digital representations of the biological world. Her immersive installations and sensory experiences engage audiences with abstract biological concepts and provoke curiosity through unfolding detail. Her work evokes notions of residues in both the abstract (metaphorical, poetic, ethereal) and the physical (literal, material, biological). Her research-based studio practice draws from epigenetic research on environmental influences on gene expression.

“Baroque Bodies (Ambient Portals)” is an animation created with molecular models of nucleosomes and AI-generated reflections. The mirror surfaces of histones and DNA reflect idyllic landscapes that are otherwise invisible in the animations. “Baroque Bodies (Configuration)” is an animation created with computationally driven movement from simulations of chromatin configurations. Biophysical calculations generate the movement of spheres representing nucleosomes. The colorful metallic surfaces of the spheres and the reflected images in the mirror proteins were created with AI image generators using text prompts from scientific research on epigenetics. “Baroque Bodies (Patchwork)” is a spatialized sonification of computer-generated contact map visualizations depicted in a related series of weavings, “Tangible Variations”. The soundscapes were composed by converting sound files into midi tracks. A different midi instrument was assigned to each of the 20 tracks creating an ethereal sonification of contact among molecular bodies that are

situated in a liminal space that is at once biological and technological.

This work is part of “Sticky Settings”, a collaboration between interdisciplinary artist Laura Splan and theoretical biophysicist Adam Lamson. The project explores entanglements of computational and biological worlds and is informed by Lamson’s biological simulations and Splan’s interrogations of scientific imaging techniques. Lamson’s simulated chromatin configurations serve as both material and as a conceptual framework for artworks exploring virtual representations of the biological world with sensory encounters and tactile experiences. The collaboration explores the potential for deeper understanding of complex science by rematerializing representations of molecular phenomena. Weavings, soundscapes, animations, and immersive installations engage audiences with physically intuitive experiences of abstract biological concepts.

The creative underpinnings of Sticky Settings are informed by Splan and Lamson’s shared fascination with the layers of translation involved in digital representations of molecular biology. In software interfaces, “sticky settings” is a phrase used to describe “remembered” user settings. “Sticky” is also a term Lamson uses to describe certain molecular interactions in his computer-generated models. In biology, evidence has emerged for gene bookmarking suggesting mechanisms of epigenetic memory or “stickiness” in DNA. Their collaborative artworks repurpose the “GUI” interfaces with which we confront “gooey” biological materialities in the lab and reframe their implications in our everyday lives.

From the epigenetics of trauma to the visualization of its manifestation at the molecular level, Sticky Settings explores the biophysical processes that affect our embodied experience of the world around us. The collaboration operates on the belief in the potential for art to not only communicate science but to connect people through a shared understanding of its complexity and its implications for the future of our humanity.

### Splan, Laura

Laura Splan is a transdisciplinary artist working at the intersections of Science, Technology, and Culture. She creates conceptually layered artworks that explore the sublime complexity of the biological world while unraveling entanglements of natural and built systems. Her research-driven projects reframe artifacts of the biomedical landscape with embodied interactions and sensory encounters that

leverage tactility, light, and sound. Recent exhibitions have included multimedia installations, immersive experiences, networked devices, participatory sculptures, and intimately scaled objects created with poetically considered materials. Her artworks have been commissioned by CDC Foundation and Bruges Triennial. Her work has been exhibited at the Museum of Arts & Design, Pioneer Works, and New York Hall of Science and is represented in the collections of Thoma Art Foundation and Chan Zuckerberg Initiative. Reviews and articles including her work have appeared in The New York Times, Wired, Discover, and Frieze. Splan's research has been supported by Jerome Foundation and Knight Foundation. She is currently exploring computational representations of biology with theoretical biophysicist Adam Lamson for a collaboration supported by Simons Foundation. As NEW INC Artist-in-Residence at EY, she is developing extended reality artworks that reveal "virtual residues" persisting in the physical world while exploring possibilities for materially liminal experiences.

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## The Poetic Politics of Peace

The intersection of film, music, and multi-disciplinary art practices of Northern New Mexico is the key in developing awareness during this era of war and environmental degradation. New Mexico is the birthplace of the atomic bomb and it is also the location of historic uranium mining to build atomic bombs and atomic energy. New Mexico has a history of environmental degradation and social justice issues. It is also the site of the largest uranium spill on the lands of Native Americans plus it is the site of nuclear waste disposal. Taos is about 45 miles downwind from the Los Alamos National Laboratory where the nation's nuclear bomb research and development continues to take place. Multi-disciplinary art practices are an important component towards raising awareness of New Mexico's role as a USA sacrificial zone and an atomic war developer.

### Stevens, Jean

Jean E. Stevens MFA, taught art history for 25 years, a retired middle school teacher, director of the Taos Environmental Film Festival for eight years, world traveler, Climate Reality Leader,

filmmaker, screenwriter, photographer and multi-media artist.

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## Substance Use Counselor / Artist

My proposal is a presentation about addiction but it will not be filled with dried up, worn out data that has become the background chorus of the opioid epidemic. I will discuss the positive impact of creativity and connection that reverses the negative effects of addiction on individuals, families, communities and societies. Traditional thought about addiction comes largely from a mechanistic, disease model approach. I will discuss briefly the impact of BF Skinner, the "Skinner boxes" and the theory of addiction. These studies influenced treatment, the war on drugs, political and economic policies, class and racial discrimination and how we view the "so called addict" currently. In contrast, I will present work from Bruce Alexander, a psychologist who refuted BF Skinner's work. He introduced a model for healing addiction through creativity and connection. Living examples and stories will be shared to illustrate the necessity of connection through creative acts as a powerful vehicle to heal individuals and communities with addiction. I will present my work creating mosaic murals with local Taos "youth at risk" groups. From my counseling work, I will share accounts of art as a means of healing. As a person in recovery, I will share therapeutic experiences with performance art, dance, singing, and the creation of mosaics.

### Thompson, Lauren

Lauren Thompson has worked in the field of chemical dependency for 8 years professionally as a counselor and an advocate. She has performed in theater and performance art, sang professionally and is a mosaic artist and teacher. Lauren incorporates art into both her counseling and community projects. She has lived and worked in NYC, Boulder, CO and Taos NM. Lauren is also a trained professional chef.

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## In Progress: Speaking Perennial

This presentation mixes a short excerpt from an artist's video-in-progress, part of a performance about women and aging, with a discussion of the research that underpins it. The video is key piece of the performance *Speaking Perennial*, in which a trio of dancers, one present and two appearing via video mixed with animation, portray a nonverbal conversation about aging between a woman and the perennial herb *Borderea pyrenaica*, which can live 350 years. For the herb, aging involves yearly renewal; for the woman it is experienced as both personal maturity and social invisibility. As they explore each others' lifeways, projections spill color and commentary onto the stage, adding imagery and information. Rooted in research into what biological diversity teaches humans about aging, *Speaking Perennial* stages the surprise, ambiguity, and weirdness of thinking cross-species. It is a fable of biodiversity and the richness that humbly attending to nonhuman intelligence can bring human life. In her "prime" the human character, Iris, was part of inventing new media and the virtual world. Now she is troubled by being out-of-date. She feels multiple, a young self inside and an old self that others see. In performance, the present self is played by an elder dancer with the younger self appearing in video. Both interact with the herb *Borderea pyrenaica*, also appearing through video. *B. pyrenaica* has its own technology and plant powers. The first human/plant contact is funny and frustrating; a dance of mixed signals. But when Iris starts noticing *B. pyrenaica* instead of stepping on it, their encounter unfolds. As a being who grows a new body each Spring, *B. pyrenaica* is curious about Iris's multiplicity. They explore each others' experiences of aging amidst cascading music and imagery. Amidst visions of co-evolved living groups that preceded human times—strange ferns and ocean creatures and dinosaurs—Iris begins to see all beings alive as humans' companion species, her life inseparable from theirs. *Speaking Perennial* ends with an uninterpretable signal from *B. pyrenaica*: vital, mysterious, living a valuable life in its own terms. With my collaborators of seven years, choreographer Donna Sternberg and her company, I played with different frames to consider aging for more than two years before hitting on *Speaking Perennial*, which was catalyzed by the research paper "Aging, stress and senescence in plants: what can biological diversity teach us?" by evolutionary biologists Marina Pérez-Llorca and Sergi Munné Bosch. Their research came to our attention as a follow-up to my 2019 project, *PUBLIC Journal #59*, an artists' journal issue on interspecies

communication. While developing *The Vortex* (2020), a dance performance telling the stories of scientists who were also women, people of color, or gender nonconforming, we encountered research showing that age discrimination is the "last acceptable bias" and that elder women particularly suffer from social invisibility—in the imagery of *Speaking Perennial*, they live on a "rocky outcrop" "far from the action." The discussion of this work-in-progress surfaces complex questions about age and women's lived experience within a feminist context.

### Tromble, Meredith

Meredith Tromble is an intermedia artist whose work includes performance, drawing, installation, and writing. She has described her career as a clover leaf, visual art leading to writing leading to performance and back again. She often works collaboratively, including the *Vortex* series of interactive artworks with geobiologist Dawn Sumner and performance collaborations with Los Angeles-based company Donna Sternberg & Dancers. Tromble's work has been presented at venues including the Academy of Sciences, Washington, DC., BioBAT Art Space, Brooklyn; Mondavi Center for the Performing Arts at University of California, Davis; Pratt Manhattan Gallery, New York; and Odyssey Theater, Los Angeles. She is author or editor of several books and book chapters, including *The Routledge Companion to Biology in Art & Architecture*, and co-editor of the series *Biotechné: Interthinking Art, Science, and Design*, published by Bloomsbury.

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## If songs are alive, why can't AI be alive?

If songs are alive, why can't AI be alive? Two projects created from the guts of the pandemic answer this question. Two crusades of my own micropolitics, which cry out for help and find in AI an ally, a member of the *Ayllu\**, a kin. "Ancestral Typography" is both a methodology and an artwork that combines AI and Typography to preserve indigenous languages from, by, for, and with their communities, fighting stereotypes about technology and learning. It contains a truth that is impossible to avoid: Language configures the world. Peru has 48 indigenous languages that are spoken and official. It means equal to Spanish,



the dominant language, but not in the practice. They are only spoken at home, and if it continues, they will disappear. The problem is technological tools to write them correctly and easily doesn't exist. But Peru is not the only one. Governments of countries with living native languages have linguistic politics that have structural problems ranging from racism to ideas about technology and learning. Typography is a technology of the written language, if it does not have the necessary glyphs, it can restrict its understanding. The idea is not only to use AI to create typefaces for indigenous languages but to reflect on this process with indigenous communities, adding their epistemologies that not only includes aesthetics but also ways of doing. An indigenous AI is not only possible but fundamentally human.

"La Verdad" is an impossible dialogue between an Artificial Intelligence (AI) of Keiko Fujimori's voice in training to tell the truth (not completed for security reasons) and a citizen's audiovisual testimony Liz Rojas Valdez. Due to the inability of the heiress of Fujimorismo to tell the truth, I created a voice AI to do so, I concluded it is the only way. This happened in the middle of the last presidential elections in Peru. She was a candidate for the third time. Then I learned everything involved in training AI. I listened to all her speeches-lies from 2011 to 2021 campaign. Archival torture that I do hypnotically in the hope that this embryo-machine learns to tell the truth. But where is the truth? Does it exist? Part of it collected by the Comisión de la Verdad y la Reconciliación is part of the LUM's CDI, created "for reflection and memory on the period of violence between 1980 and 2000". There, on its YouTube channel, along with many others, I found the testimony of Liz. I am hopeful that the confrontation between technologies, that the project proposes, will have some restitution.

A guerrilla AI is configured.

So, in addition to being a presentation, this is a chronicle, it is a vindication of the process, the power of art and education. An open wound. The statement of an artist-subject of study-citizen who does not escape the reality she has to live, in a deeply (necro) political fierce moment and world.

I must confess that I am a human who would rather be an AI than a goddess.

### **Vilca, Cecilia**

Peruvian trans artist feminist, chola techno-witch and language activist. M.A. Digital Arts, Universitat Pompeu Fabra, Barcelona, Spain. Founding member of creative and digital heritage division, MyAP - Microscopía Electrónica y

Aplicaciones en el Perú, Electron Microscopy Laboratory. Her artistic work is made with technology in concept and realization exploring its relationship with gender, society, and nature. From a decolonizing vision, it develops in the borders of art and science, connecting ancient technologies with the new ones. Her main goal and poetic are to encourage reflection through revelation using technology. ISEA2020 Montreal and ISEA2023 Paris IPC Member. TTT2023 Malta, Scientific & Artistic Committee member. Journal of Science and Technology of the Arts (CITAR) Reviewer. Seven Art Residency Programs: Mexico, Bolivia, USA. She has exhibited her work, organized exhibitions, and given lectures in Peru, Mexico, Bolivia, Argentina, Spain, Cuba, Chile, Norway, Colombia, Brazil, South Africa, Australia, Greece, Ireland, Portugal, Austria, and the USA.

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## **Mexican Electronic Art: Reflecting the Roots of Ancient Mexico**

Mexican Electronic Art has been displayed through artists and their artworks, the culture, and traditions that form part of Mexican national identity. The different groups that lived in Mexican Altiplano left plenty of traces of their life in the center of the country. Today we have literature and archaeological vestiges as evidence of their beliefs in everyday life, as well as traditions, especially those related to their environmental perception of the world. Some Mexican electronic artists have acquired enough knowledge to create with pre-Hispanic elements in such a way that it is possible to perceive hints of how people can live peacefully and in harmony with nature. One of the most important findings of this research is the fact that a symbiotic relationship could exist between the electronic artists and the artworks that emerges from this ancestral knowledge. It is a reminder of those aspects that can help a society to transcend and be capable of improving on the different aspects of life. It is in this way that it is possible to induce new symbiotic relations from the dissemination of this knowledge.

### **Villagomez, Cynthia**

A professor and researcher at Guanajuato University, Mexico since August 2002, she is the

author of six books, several book chapters, and articles about Art, Digital Art, Creativity, and Design. From 2003 to 2021 she was the editor of the University of Guanajuato magazine *Interiografico de la Division de Arquitectura, Arte y Diseño*. In addition, she has made several trips Spain in connection with the research she has been developing. She is a Graphic Designer, with a master's degree in Creativity for Design from the School of The National Institute of Fine Arts and a Ph.D. in Visual Arts and Intermedia from Polytechnic University of Valencia (UVP), Spain. Her Ph.D. thesis on Processes of Production in Mexican Digital Art received UVP's "Extraordinary Award for Doctoral Theses" in 2016. She is a former Member of The Mexican National Research System, Level II of Mexico's National Council for Science and Technology, CONACYT.

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## Visualizing the Climate Change through Art, Science and Community Collaborations

As Climate Change quickly becomes an undeniable part of our reality, we struggle to grasp its scale and magnitude. We are being bombarded with scientific data daily, leaving us helpless and confused. As a Hyperobject, Climate Change stretches through time and space (Morton); however, we are just witnessing the tip of the iceberg. Unless it enters our homes and communities, we are entirely removed from this reality and often feel paralyzed. So how do we see the unseen? How do we understand Climate Change? And more importantly, how do we connect to it personally? This past year I have been working on two projects addressing Climate Change in the form of Art, Science, and Community participatory visualization. Both projects aim to engage the local community (artists, scientists, and citizens) in discussing the regional implications of climate change. Both projects are rooted in Sustainable Art Practices Principles, which I have been developing for the past few years.

DendroClimatology Project is a speculative participatory installation exploring the relationship between climate data collected by humans and climate data collected by nature (trees). The project was conceived at Oak Spring Garden Foundation Artist-in-Residency in July 2022. In response to the extreme storm that ravaged Fauquier County, Virginia, the installation addresses data collection by human and nonhuman subjects with research on pro and

anti-environmental legislation in the USA in the past 120 years. Trees are proxies for climate data; we can identify various years of climate conditions by analyzing tree rings. Combined with other methods, it can give us a glimpse into the climate in specific areas dating back hundreds of years ago versus human data (1985). I visualized the data of Fauquier County (NOAA, Virginia) for the past 120 years for July, using mulch of fallen trees on the Airstrip on location. Mulch distributed horizontally (precipitation) represented 12 years per circle. With the outer ring starting from 2021, I created a maze my audience needed to solve to get to the center - the stump of the *Celtis occidentalis* species I placed as my ground zero and the year 1901, where the public can compare the tree rings data. Using decaying leaves from fallen trees, I made paper to create a print of the tree stump with walnut ink from local species as a visual memory of the fallen trees.

HydroEcologies series explores the hidden story of groundwater and human impact on climate along the Colorado Front Range Urban Corridor. Data from selected wells is transformed into a visual narrative using locally sourced materials to address the ongoing drought crisis in the area. As we leave traces in the surrounding world, they become a part of the unseen story of water, where HydroEcologies serve as a metaphor for the hidden history of relationships between humans and water. The project is supported by Colorado Art Science Environment (CASE) Fellows program. It will be exhibited at the Colorado State Capitol as part of the Colorado Creative Industries Creative Capital program, May-September 2023.

### Warner, Darya

Darya (Born 1981, Ukraine, they/she) works at the intersection of art and science by bridging the creative process and growth/connections with human and non-human actors through the prism of Climate Change. By addressing site-specific history, ecology, and local systems of communication Darya aims to mine a new form of hybrid space for "intermatter" interaction with an emphasis on the interconnectivity of intelligence across species. Their research explores the Biophilia Hypothesis, also known as "the love of all living things," as a crucial factor in reconnecting humans and nature via interactive installations, visual displays, photography, sound, time-based media, and bioart in the new form of hybrid matter based on care. They address issues of environmental impact among artists and connect creative processes to earth-conscious practices. Darya is an educator, and they are

implementing sustainable art practices methodology as a part of the educational curriculum. Darya graduated from the School of Visual Arts (BFA) and got their MFA from University at Buffalo. They have exhibited nationally and internationally, including in NYC, Denver, Albuquerque, LA, Miami, India, and Germany, and received multiple grants to support their projects. Darya teaches photography and art+science collaborative practices at the United States Airforce Academy, Colorado.

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## Let the Art speak for itself

This is a refrain of artists often dismissed. It's not coded as intellectual. It opens the door for misinterpretation. It's considered lazy. Didactic text next to visual art is essential in a museum: it bridges the artist with the public and clarifies images. It addresses the question: What were they thinking? For me, "Letting the art speak for itself" indicates an Artist's refusal to address their work using words. It is the refusal to translate from image to language. Images are their own language. Translating an image into language is a key skill in art history - "reading" the image. From there, the work is admitted into polite society. I'm an artist who thinks in pictures, as described by Rudolph Arnheim in *Visual Thinking* (1969). I copy pictures from inside my brain. If my work itself did speak, it would be more likely to comment on someone's appearance or its own neighbors in the room. It is unlikely my work would clear up any questions if it became, artificially, intelligent. Thinking in pictures is an exciting development in Artificial Intelligence. Can we call the mash-ups that DAL-E 2.0 does visual thinking? Semantics, in cognition science, helps build these image and facial recognition theories and algorithms. A big issue is the "Semantic Gap Problem" between natural language descriptions of images and visual perception. This is the mismatch between what computer vision sees and the words humans use to describe the same images. Calling it a "problem" is a semantic oriented limitation I take seriously. The abundance of image interpretations out there is a joy. A crow can be coded as a black bird, of which there are many, an icon referring to the Apsáalooke nation with affiliated heritage and symbols, or it could be a metonymic stand-in for an Edgar Allen Poe poem or a Hitchcock film. All of that is information available without leaving the internet, the English language or the United States. What else is out there? Can A.I. read Persian? This does not

include a neuro atypical head space. As a neuro-atypical person, it's useful to me to discuss this break between image and word with semantics when images are translated into word meanings and are organized for cognition science. My cognitive position is that I have ADD. Attention Deficit Disorder is coded as a dis- order in The Diagnostic and Statistical Manual of Mental Disorders because my brain structure makes it tough to follow steps, instructions, rules, social cues, and ineffable deadlines. Is it possible for computer science to model ADD? If it did, would it get dismissed as a bug in the code? Would it be encouraged as we reward or discipline children in school? Korzybski wrote in 1931 "The map is not the territory." From Allen Walker Read's 1983 paper "no word [logos] has the same meaning twice". How about images? How about objects? People? What about the relations between them inside the same pictorial-temporal space? Can these questions be addressed with words, mathematics, code?

### Wetmore, Ellen

Ellen Wetmore is an artist and a Professor of Art at the University of Massachusetts, Lowell, where you can get the best fish amok in Massachusetts. Raised in Saginaw, Michigan, she is a graduate of the University of Michigan (BFA, BA in Art History) and of Tufts University/School of the Museum of Fine Arts (MFA), she moved to Massachusetts in 1995 and joined UMass Lowell in 2007, tenured in 2014. She is a participant of CAA, Boston Cyberarts, and Cultivamos Cultura. Her awards include a 2017 Berkshire Taconic ART Fellowship and a 2017 Massachusetts Cultural Council Fellowship. Her social concerns include neuro-atypical abilities, race and teaching, money and art, and the treatment of depression. Wetmore's current artistic practice reinterprets art history and investigates visual thinking. Wetmore's projects have been featured at the Boston Cyberarts Art on the Marquee; the Indianapolis Art Center; the Sandwell Arts Trust; Ciné Lumière, London; CologneOff, Germany; the InShadow Festival, Lisbon, and Videoholica in Bulgaria. She is a 2012 School of the Museum of Fine Arts Traveling Fellow and a summer 2015 visiting artist at the American Academy of Rome. Her most recent solo exhibition was a drawing study of the collection of the Fitchburg Art Museum. Her current science collaborations explore fabric-based video displays, semantics of geometric space in art, and the characterization of high fire ceramic glazes in a Cambodian wood fired kiln. Her first graphic novel, *Dante's Inferno*, is a fictional account of race and the academic hiring process

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## Strata, Speculative Geology, and Bodies in the Anthropocene

The term “Anthropocene” wrongly attributes blame to all humans uniformly. It strangely re-naturalizes humans and flattens anthropos into a geologic feature, abdicating responsibility and occluding power dimensions (political, social, and economic) that are more acutely the causes of a new epoch and the concurrent ecological crisis (Davis et al. 2019; Malm and Hornborg 2014). In a way, it extrudes differentiated bodies into a plastic sameness across the species. The gestures of one body refract, as if merely images, and warp upwards into an entity that somehow produced enough cement to outweigh all biomass on earth (among many other impacts). The term perpetuates humans as the arbiters of geological change, maintaining a hierarchy of agency oriented away from nonhumans and designed materials, as well as away from systems like plantation agriculture or capitalism. Yet any version of this epoch—plantationocene, capitalocene—relies on the notion of stratigraphy to denote a proposed new rock segment in Earth’s strata. The geologic record has been one of scientists’ best models for understanding global climate change in reference to past climactic states. But I propose a new kind of aesthetic geologic archive for an epoch located in an intra-acting present-future (Barad and Kleinman 2012), which may better address the pernicious challenges of scale it presents. “Anthropocene” becomes useful again, for its ability to figure relationships between differentiated anthro bodies and timescales that elude individual cognition.

In this presentation, I will show a series of works experimenting with entangled pasts, presents, and futures “in strata,” including video, sculptural works, photography, and texts. The works gesture at a future stratigrapher, who may address the layers of strata contributed by human civilization by sifting through industrial archeological sites or ruptures of asphalt in subsoil. Material juxtapositions in my work are sourced from these and other sites, primarily in the Capital District Region of New York. In the work, improperly mixed or waste aggregates form striking speculative geologies—concrete laced with splinters of wood and slag with iron-stained red gravel. Some of the human-made stones are vacuum-sealed and shrink-wrapped, calling into question ideas of preservation. These processes,

like the heat and pressure of geologic transformation, suffocate anthropogenic rocks into layers, and into ambiguous future specimens. Pollen from plantation agriculture (corn, bananas, and wheat [Lewis and Maslin 2015]) becomes a stratigraphic marker layered into concrete. Video and photo works show fragments and allusions to bodies metabolizing or existing with these materials: a mouth that eats clay rocks, a form making futile attempts to climb gravel, and a dining room chair that sits alongside a pile of waste asphalt. While these materials co-create geologic time with us, and with each encounter, they are not fetish objects of vitality. As opposed to seeing them purely for their unexpected manifestations, we can see our relation to them through aesthetics as a comingled agency, constantly opening towards the future (Derrida 1995). In fact, their future stratigraphic existence has agency because it is already a haunting presence, an indeterminacy (Barad 2017). As changes to the geologic makeup of the earth happen over time scales that exceed our comprehension, we will refigure again and again the agency of such objects.

### Wist, Allie ES

Allie E.S. Wist is an artist-scholar with a focus on sensory futures, environmental humanities, food, and the Anthropocene. She is currently working on an “anarchive” for the Anthropocene, where sensorium and affect are prioritized through artifacts of changing environments and material juxtapositions. Her work encompasses photography, radio broadcasts, dinners, installations, and writing that render challenging temporalities accessible. She has an MA in Food Studies from New York University and a BA in Media from Boston University; she worked as a photo director in food media in New York City for over a decade.

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## Eco Grief & Anxiety: Transdisciplinary Perspectives from an Artist-Scientist

The world is experiencing a time of extraordinary ecological loss - of species, habitat, ecological connectivity, and personal connection to the natural world. An increasing number of individuals and communities are experiencing grief, anxiety

and other health effects surrounding these losses.

As environmental losses continue to grow across the globe, so too, do the emotional impacts to individuals and communities, such as anxiety, stress, depression, and increases in both violence and aggression<sup>1</sup>. These losses also can lead to existential distress. The events in recent years; the global pandemic, wildfires on the west coast, hurricanes in the southeast, drought in many regions across the United States, and migrations of individuals and families moving to escape these phenomena, only exacerbate and confirm the need to address grief and anxiety, as well as our capacity for resiliency.

Eco grief and eco anxiety are now recognized by the American Psychological Association. A survey by APA released in 2020, found that 56% of U.S. adults said that climate change is the most important issue facing the world today. Nearly 50% of young adults experience eco-anxiety every day, with 75% of young people feeling that the future is frightening. The current and projected world situation is an existential crisis for many.

As an artist and scientist, I have focused my life's work on the environment through a transdisciplinary lens. My work as an artist has focused on climate disruption and in recent years more specifically on ecological grief. This session will focus on that work, as well as how other artists are dealing with these natural responses of grief and anxiety to very unnatural phenomena. The session will also include participatory elements to help us identify eco grief and anxiety in our own lives and how we might work with it toward a path of acceptance, healing and resiliency.

### **Witman, DM**

DM is a transdisciplinary artist working with photographic media, video, and installation. Her work explores climate disruption and the impacts of human influence on ecological and societal webs. Her research and creative practice are deeply rooted within the realm of the effects of human impacts on this world, and most recently, "ecological grief". The world is experiencing a time of extraordinary ecological loss - of species, habitat, ecological connectivity, and personal connection to the natural world. As individuals and communities deal with the shifts in the physical environment, so too, must we deal with the psychological and existential changes to ourselves and our communities. She shares her time between the banks of the St. George River in Maine and the Borderlands of South Texas.

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## **Re:Peat - A Look and Listen at Post-Extraction Peatland**

I collaborate with ecologists at the Natural Resources Institute Finland to explore peatland – a rare type of ecosystem where Sphagnum moss slowly decomposes and creates an anaerobic, water-logged desert where only it can survive and thrive. In this way the plant is similar to us. I explore the physiology of Sphagnum – how cells can expand to hold 20 times their weight in water, how the plants weave together to form a mat, and sometimes create an artificial water table. I combine hand-made paper from plants at our study site, digitally altered photos of the site, laser cuts from microscope images of Sphagnum, to create not-quite-flat paintings I call "peat quilts". I also use soil data translated into sound to allow us to hear parts of the ecosystem we can't see. The latest iteration of this data sonification project is composed by Hannah Selin and will be performed by Tuira Chamber Choir at New Music October in Finland.

Peatland is a valuable carbon and climate data preserver. It's also a source of local fuel and jobs. However, peatland can't regenerate quickly or regrow reliably– so we are left with an altered, or "novel", ecosystem. This close look at an ecosystem we have forever changed can provide insight on how we can deal with other post-human landscapes closer to home.

### **Yoncha, Anne**

Anne Yoncha (US) is Assistant Professor of Art at East Central University in Ada, Oklahoma. Born and raised in Wilmington, Delaware, she earned her MFA at the University of Montana and recently completed a Fulbright fellowship at the Natural Resources Institute Finland, working with restorationists to make collaborative art-science work about former peat extraction sites outside Oulu. Her practice combines digital sensing technology, such as bio-data sonification, and analog, traditional processes including painting with ink she makes from locally-sourced plant matter. Her ongoing research with the HAB (High Altitude Bioprospecting) working group began in Fall 2019 at Field\_Notes, a residency of Finland's Bio Art Society at Kilpisjärvi Biological Station in subarctic Lapland, where she worked with artists, biologists, and programmers to attempt to detect high-altitude microbes using a heli-kite.



Tree Talk, her temporary site-specific installation sonifying invisible processes within a stand of Ponderosa pines, was selected as the 2018 Emerging Artist project at Blackfoot Pathways Sculpture in the Wild in Lincoln, Montana. She has also been awarded residencies at Cedar Point Biological Station in Ogallala, Nebraska, and Flathead Lake Biological Station in Polson, Montana. Her work has been shown nationally and internationally, notably at the CICA Museum in South Korea, Finland's Art li Biennial, the Budapest Environmental Project, and Codex Foundation's international artistic exploration "Extraction: Art on the Edge of Abyss". Outside the studio she can often be found doing another kind of environmental "research" via bicycle.

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## 20 years in 10 minutes: Reverence, Reciprocity, Connection and Collaboration: An overview of Public Outdoor Works, Collaborative Works and Vortex Weavings

La Ofrenda, 2008 - Badlands/Cultivate Exhibition organized by MASSMoCA. Badlands represented the cataclysmic side of the natural world presented in the galleries at MASSMoCA. Cultivate represented the regenerative side of the natural world presented at the Botanical Gardens in Stockbridge MA. I built an Offering Station with medicinal plants and pockets full of small stones and shells. I asked people to take a stone, shell or a leaf from the medicinal plants and offer it to the stone pile on the right. The stone pile was built with stones I collected from powerful sites in each of the cardinal directions from the botanical gardens, with the notion that the stone pile connects into the electromagnetic field of the earth. In this work I am enacting a cultural idea I learned in Peru called Ayni. Ayni means Sacred Reciprocity. Here we are giving thanks to the earth for the home and resources she provides us.

AfterShock, 2010 is a site-specific work referencing a 1923 United States pillow patent called the "Marine Life Saving Pillow" which was originally used as a flotation device so people would not drown. This project is a 21st Century version of the "Marine Life Saving Pillow" aiding in saving Marine Life from oil spills created during

the BP Gulf Oil Spill. The over 200 Marine Life Saving Pillows are made from brightly colored tights stuffed with alpaca fleece and sheep's wool covered in orange mesh, creating an extravaganza of color. They look like sea anemone which are threatened by human impact. The technique used to create this project was inspired by oil absorbent "hair booms" fabricated by Matter of Trust to collect oil in the BP Gulf Coast oil spill clean-up efforts. AfterShock was conceived to raise awareness about the ongoing effects of the oil spill, the perilous state of our oceans, and as a reminder of our dependence on fossil fuel.

Re:Seed Saugerties, 2016 I initiated an art and soil building social sculpture. With this opportunity we built a community around a 70' x 100' corner lot in the village of Saugerties NY. On this piece of land, we built soil, an earth tattoo, shared food and seeds, built seed sculptures and participated in Chickenarama performances. Over 7 months we hosted over two dozen public gatherings. We began by blessing and thanking the land with a traditional offering based on the Despacho, an offering art form from the Andes. The Children from the local Boys and Girls Club an 8-minute walk from the site are burying the offering. We made seed sculptures with salvaged seeds from previous years led by Adam Zaretsky. We built soil and shared Seeds and Food with the Long Spoon Collective. We Chicken Danced with Linda Mary Montano and planted nitrogen fixing plants with the Boys and Girls Club. Seven years later Re-Seed Saugerties is a teaching garden for the Boys and Girls Clubs kids and their families.  
[www.jenniferzackin.com](http://www.jenniferzackin.com)

### Zackin, Jennifer

Jennifer Zackin integrates public art, sculpture, installation, performance, collaboration, ceremony, photography, video, collage and drawing into acts of reverence and reciprocity. Whether wrapping trees in patterns of brightly colored rope, growing medicinal herbs in a public garden for public use, offering large masses of rose petals to oceans and lakes, creating absorbent tentacles ("hair booms") out of salvaged materials to aid in the clean-up efforts of toxic spills, Zackin seeks to engage and create community in her process, bringing art and ritual into everyday life. Every act is an exploration of exchange, communion, performance, skill-sharing and mark-making. Her work has been exhibited in national and international museums, including the Whitney Museum of American Art NY, Aldrich Museum of Contemporary Art CT, Spertus Museum - Chicago IL, Rose Museum MA,

the Wexner Center for the Arts OH, Contemporary Art Museum - Houston TX, The Henie Onstad Kunstsenter, Høvikodden - Norway, Institute of Contemporary Art - Boston MA and the Zacheta National Art Gallery - Warsaw, Poland. Commissions include Governors Island NYC with LMCC, Katonah Art Museum NY, Socrates Sculpture Park LIC - Queens NY and the Berkshire Botanical Gardens - Stockbridge, MA. She is the recipient of fellowships and residencies, including Factory Direct at Pinchbeck Rose Farm, Art Omi, Atlantic Center for the Arts and the Skowhegan School for Painting and Sculpture.

**WORKSHOPS**

**FEMMEETING**

## Sustainable art practices: 3D printing with Live Matter



Whether you are a professional artist or curious about how to minimize your impact on the environment while producing art, this workshop is designed to answer some of the questions and also offer practical applications based on Darya Warner's research on Sustainable Art Practices. As an artist working in the intersection of Art/ Science and Environment Darya has been developing new methodologies to address sustainability in art practice from both materials and conceptual perspectives. The workshop consists of 2 parts that combine an artist talk and a practical application of bioprinting with living matter. We will work with local clay to 3d print drawings submitted by the participants. We will be using MycoPrinter 2.0, a 3D clay printer Darya has built. The participants will choose specific seeds to conceptually connect the drawings to the specific seeds. **Venue:** Oo-Oo-Nah Art Center. **Host:** Taos Pueblo

Education and Training Division, Bettina Sandoval. **Audience:** Oo-oo-Nah Art Center summer camp children.

### Facilitator - Darya Warner

Darya (1981, Ukraine, they/she) works at the intersection of art and science by bridging the creative process and growth/connections with human and non-human actors through the prism of Climate Change. By addressing site-specific history, ecology, and local systems of communication Darya aims to mine a new form of hybrid space for "intermatter" interaction with an emphasis on the interconnectivity of intelligence across species. Their research explores the Biophilia Hypothesis, also known as "the love of all living things," as a crucial factor in reconnecting humans and nature via interactive installations, visual displays, photography, sound, time-based media, and bioart in the new form of hybrid matter based on care. They address issues of environmental impact among artists and connect creative processes to earth-conscious practices. Darya is an educator, and they are implementing sustainable art practices methodology as a part of the educational curriculum. Darya graduated from the School of Visual Arts (BFA) and got their MFA from University at Buffalo. They have exhibited nationally and internationally, including in NYC, Denver, Albuquerque, LA, Miami, India, and Germany, and received multiple grants to support their projects. Darya teaches photography and art+science collaborative practices at the United States Airforce Academy, Colorado.

## Seismic Listening: From ground vibrations into electronic signals, listen to the sounds of our shared environment



Students will learn field recording techniques and use seismic listening devices, such as Geofons, which convert ground vibrations into measurable electronic signals. We will listen and record sounds from above and below ground. In the end, we will create a collective sound library and a sound map of our shared environment. **Venue:** Northern New Mexico College. **Host:** STEM Santa Fe. **Audience:** 12+.

### Facilitator - Monica Duncan & Senem Pirlir

Monica Duncan (she/her) is a video and performance artist. Her time-based work investigates the nature of visual perception, audience-performer relations and queer potentiality through camouflage,

improvisation and collective image-making. Duncan's work has been exhibited Künstlerhaus Mousonturm, Hebbel am Ufer HAU1, Frankfurt Lab, Komuna//Warszawa, The Kitchen, La Casa Encendida, ZKM, Los Angeles Contemporary Exhibitions, amongst others. She has been a visiting artist at Atlanta College of Art, Signal Culture, Experimental Television Center, Scena Robocza, Institute for Electronic Arts and PACT Zollverein. She holds a MFA from the University of California, San Diego and a MA in Choreography and Performance from JLU Gießen, Germany. Duncan joined the faculty of the Department of Music, Multimedia, Theatre & Dance at Lehman College-CUNY in Fall 2019.

Senem Pirlir (she/her) is a sound and intermedia artist, and educator. Born in Turkey, Pirlir studied classical piano at Hacettepe State Conservatory and sound engineering and design at Istanbul Technical University/MIAM. Pirlir earned her M.M. in Music Technology from NYU Steinhardt, and her Ph.D. in Electronic Arts from Rensselaer Polytechnic Institute. Pirlir's artistic practice is collaborative: she is interested in the concept of agency in improvisational practices and creating opportunities that hold complex entanglements between human and nonhuman bodies, spaces, and multi-sensory experiences. Pirlir has exhibited and performed work at institutions, venues, and festivals internationally, such as EMPAC, Roulette Intermedium, The Kitchen, Carnegie Hall, Southbank Centre (London), Akademie der Künste (Berlin), Los Angeles Philharmonic, Baryshnikov Arts Center, Montalvo Arts Center, Mount Tremper Arts, and Collar Works. Her work has been recognized by various institutions through residencies, such as Institute for Electronic Arts, PACT Zollverein, and Signal Culture residency. Pirlir has been awarded a NYSCA/NYFA Artist Fellowship in the category of Music/Sound in 2022 and the Malcolm Morse Award to honor the work of Pauline Oliveros and Deep Listening in 2018. Dr. Pirlir joined the Bennington College faculty in the Fall of 2018.



## Interactions with Living Leather



The goal of this studio is to facilitate a space in which creative practitioners can collaborate, explore, make, and discuss SCOBY (Symbiotic Culture of Bacteria and Yeast) – a sustainable biofilm, grown in kombucha tea, that acts similarly to traditional leathers when harvested and dried. Together we will explore how SCOBY can be customized through various fabrication techniques, and how to create interactive SCOBY interfaces. Through hands-on group activities with SCOBY, we will teach participants about sustainability, slowness, and biomaterials in the context of technology, design, and art. Workshop Agenda: Introduction and Overview; Open design explorations with SCOBY; Making SCOBY Applications; Discussion and Closing. **Venue/Host:** UNM-Taos Hive.

### Facilitators - Fiona Bell & Mirela Alistar

Fiona is a postdoctoral researcher in the Hand and Machine Lab at the University of New Mexico, designing, developing, and studying bio-based technologies that promote ecological sustainability and more-than-human care. She has organized several biomaterial workshops at the University of Colorado Boulder, her local public library, and at ACM conferences (CHI & TEI). Fiona is also an active alumnus of the Biodesign Challenge, mentoring current Biodesign Challenge teams and co-organizing various alumni events.

Mirela is a bioartist, HCI researcher, and an Assistant Professor in Soft Materials at ATLAS Institute, University of Colorado Boulder leading the Living Matter Lab. Intersecting microbiology and HCI, her work extends the human to include interactions with their own microbiome and other living organisms. She has developed tangible living-media interfaces, and biochip-based systems for personalized healthcare. She has extensive experience organizing workshops in the context of DYIBio labs that she led or co-founded as well as in the academic context of HCI research.

## Sunrise Sensory Walk



Allie ES Wist and Lisa Ann Schonberg will lead a sensory walk / workshop at dawn on the morning of Friday, July 28. In an era of ecological crisis, alternative methods for sensing nonhuman assemblages are critical to developing a heterogeneous and grounded understanding of our local environments. Deserts have misleadingly been considered “empty” spaces in Western and colonial imaginaries, in which the impacts of extractive and polluting practices are excused as being of little consequence. In this workshop, we will focus on the details of this vibrant ecosystem, with the objective of noticing its components, and their interrelations, behavior and needs. This sensory walk will focus on non-ocular means to engage with the vibrant Taos landscape and its biological, mineral, and vegetal multitudes. Participants will “read” sonic and olfactory information – listening with hearing and touch, and sensing chemical presence with taste and smell. Participants will

be provided with creative prompts and technologies for environmental relating and observation, including mapping, listening, auralizing, and meditation. We will not be talking during the walk – but we will have a chance to share and discuss our experiences at the end of the workshop (gesturing towards/about smells and sounds is great!). **Venue:** Kit Carson Park playground. **Audience:** All ages, no experience needed. All attempts will be made to keep the route accessible but uneven ground is likely. Please reach out if you’d like to discuss accommodations we could make to the route. Modes for sensing sound through touch will be available for some portions of the workshop.

### Facilitators - Allie ES Wist & Lisa Ann Schonberg

Allie E.S. Wist is an artist-scholar with a focus on sensory futures, environmental humanities, and agriculture. She is currently working on an “anarchive” for the Anthropocene, where sensorium and affect are prioritized through artifacts of changing environments and material juxtapositions. Her work encompasses photography, radio broadcasts, dinners, installations, and writing that render challenging temporalities accessible. She has an MA in Food Studies from New York University and a BA in Media from Boston University; she worked as a photo director and prop stylist in food media in New York for over a decade.

Schonberg is a composer and percussionist creating sound works based on ecological research. Informed by her background in entomology, Schonberg is interested how these sound works can reveal and challenge assumptions about insects and other overlooked and/or avoided nonhumans. She has been collaborating with Brazilian entomologists on ATTA (Amplifying the Tropical Ants), a project investigating ant bioacoustics in the Amazon. Her other recent work includes investigations of old-growth forests in Oregon, endangered Hawaiian Hylaeus bees, and plastics. Schonberg's compositions are often performed by percussion ensembles Secret Drum Band and UAU.

## Five chairs



Inviting for a live meditation on gender equality and power, the workshop consists in building together a collaborative play. At stage, for the workshop participants to perform with, we have 5 chairs – 2 pink chairs and 3 blue chairs. The anarchic dynamic and interplay, inspired by Bertolt Brecht "alienation effect", is an invitation that addresses through "acting", issues related to women representation in contemporary societies and the places defined in society to each gender. The proposal consisting in a play formatted as a workshop, is part of a strategy for the use of 'performative data-visualization' (term coined by the authors) to rise awareness on the misuse of force, influence and authority in contemporary societies, considering women can possibly offer different perspectives and interests in the decision-making process. When it comes to political power, women are totally outnumbered by men, as of 1 January 2023, according to the UN

Women, 11.3 per cent of countries have women Heads of State (17 out of 151 countries, monarchy-based systems excluded), and 9.8 per cent have women Heads of Government (19 out of 193). In academic institutions, only around 30% of college presidents are women, and women only make up around 30% of college board of directors. Women are still paid less than men at every faculty rank and in most positions within institutional leadership. The "alienation effect", also called a-effect or distancing effect, is idea central to the dramatic theory of the dramatist-director Bertolt Brecht and involves the use of techniques that includes jolting reminders of the artificiality of the theatrical performance.

### Facilitators - Clarissa Ribeiro & Lisa Ann Schonberg

Clarissa Ribeiro, Ph.D., is a multimedia artist and researcher with an interest in cross-scale information and communication dynamics that impact human-nonhuman behavior and other macro-scale emergent phenomena, exploring in her more recent projects the metaphysics of information-visualization in subversive morphogenetic strategies that welcome the animistic to navigate ecologies as cosmologies. Chair of the first Leonardo/ISAST LASER talks to be hosted in Brazil/Latin America (2017-present), she is a member of the UCLA Art|Sci Collective (2013-present) and was recently awarded the Roy Ascott Studio's Pete Townshend Endowed Senior Lectureship in Performative Technoetics (2022) and is at present teaching in Shanghai at SIVA Shanghai Institute of Visual Arts, Detao Masters Academy, Roy Ascott Studio B.A. in Technoetic Arts. She has exhibited worldwide and has been serving as a reviewer for Leonardo and the Technoetic Arts Journal, Leonardo Abstracts Service (LABS), contributing as a member of international conferences and symposium committees.

Claudia Jacques, PhD, MFA, is a Brazilian-American interdisciplinary technoetic artist, designer, educator and researcher based in NYC. Her focus is on Information in HCI through the lens of Cybersemiotics. She photographs and designs interactive hybrid art and information environments that aim construct experiences in consciousness to promote the expansion of human knowledge. She is an adjunct associate professor of art and design at CUNY BCC and SUNY WCC; is the founder and Creative Director of Knowledge Art Studios; serves as consulting editor and as art/web editor for Cybernetics and Human Knowing Journal; a member of the Editorial Organism of Technoetic Arts Journal; as well as a member of the UCLA Art|Sci Collective.

# FULL PROGRAM

## July 24th, Monday / Closed session – Taos Center for the Arts

### Session A: In-Togetherness

**Timekeeper: Marta de Menezes**

10:00

Welcome/Opening

10:15

Centring Justice, Equity, Diversity, and Inclusion in SciComm | Abbey Morris, INCUBATOR Art Lab/ SciComm Collective (CA)

10:30

Art, education and community engagement in the space age | Agnes Chavez, STEMarts Lab (US)

10:45

Touch capacitive synthesis community building exercise | Angelina Almukhametova, Lewis & Clark College (US)

11:00

Visualizing the Climate Change through Art, Science and Community Collaborations | Darya Warner, The United States Airforce Academy (US)

– Break 11:15 – 11:45

11:45

The Poetic Politics of Peace | Jean Stevens, Taos Environmental Film Festival (US)

12:00

Field Notes: Art and Public Science – a NATURE Lab-Science for Change collab, | Kathy High, Arts Department, Rensselaer Polytechnic Institute/ RPI, Troy, NY – BioArt & Technology Lab, Center for Biotechnology and Interdisciplinary Studies, RPI – NATURE Lab, North Troy (US) + Isidora Fernandez (ES)

12:15

Fostering a STEM Culture in the Classroom | Lina Germann, STEM Santa Fe (US)

12:30

On the nature of collaboration | Roberta Buiani, Fields Institute for Research in Mathematical Sciences (CA)

12:45

Speculative Futures and Collective Effervescence | Kristin Lucas, University of Texas at Austin (US)

– Break 13:00 – 14:00

### Session B: Un-Perceptions

**Timekeeper: Dalila Honorato**

14:00

FEMeeting: Conversations | Marta de Menezes, Cultivamos Cultura – Ectopia (PT)

14:15

Strata, Speculative Geology, and Bodies in the Anthropocene | Allie Wist, Rensselaer Polytechnic Institute (US)

14:30

Observation and Sensing | Amy Pilling, Independent (US)

14:45

Re:Peat – A Look and Listen at Post-Extraction Peatland | Anne Yoncha, East Central University – Ada, Oklahoma (US)

– Break 15:00 – 15:30

15:30

The Role of Art and Consciousness in Implementing Climate Solutions | Erin Dayl, Middlesex University (US)

15:45

Dream Clinic, The Department of Planetary Futures | Jacklyn Brickman, Western Michigan University (US), Kathryn Nusa Logan | The Ohio State University (US)

16:00

Where is Midnight? | Rebecca Cummins, University of Washington, Seattle (US)

16:15

Imaginary Spaces: Bioart, Microscopy and Animation | Domenica Mediatì, INCUBATOR Art Lab – University of Windsor (CA)

16:30

Wrap up/closing

## July 25th, Tuesday / Closed session – Taos Center for the Arts

### Session C: In-otherness

**Timekeeper: Kathy High**

10:00

Welcome/Opening

10:15

Lamellae Osmosis | Ana MacArthur, Independent (US)

10:30

On Arctic Shifts | Anna Lindemann, University of Connecticut (US) + Alice DuVivier, National Center for Atmospheric Research (US)

10:45

Visualizing STEM | Georgia Schwender, Fermilab (US)

11:00

Sticky Settings: Ambient Portals in the Genetic Landscape | Laura Splan, NEW INC at the New Museum in New York City (US)

– Break 11:15 – 11:45

11:45

Music Composition Systems for Listening to Insect Relations | Lisa Schonberg, Rensselaer Polytechnic Institute (US)

12:00

Artist/Scholar in Residence, Speaking Perennial | Meredith Tromble, Feminist Research Institute, University of California, Davis (US)

12:15

Dark Skies and Nocturnal Animals | Patricia Olynyk, Washington University in St. Louis (US)

12:30

Self-de-colon-izing | Dalila Honorato, Interactive Arts Lab, Ionian University (GR/PT)

– Break 12:45 – 14:00

### Session D: In-honoring

**Timekeeper: Cecilia Vilva**

14:00

Counting Breaths: Data-Driven Memorials for Healing and Environmental Justice | Andrea Polli, The University of New Mexico and SciArt Santa Fe (US)

14:15

Ecologies to Cosmologies: Technoetic Offerings | Claudia Jacques, Knowledge Art Studios, SUNY Westchester and CUNY Bronx Community Colleges (US) + Clarissa Ribeiro, Roy Ascott Studio (CH)

14:30

Eco Grief & Anxiety: Transdisciplinary Perspectives from an Artist-Scientist | DM Witman, University of Texas Rio Grande Valley (US)

– Break 14:45 – 15:30

15:30

Love and Law in Space | Ellen Levy, Independent (US)

15:45

The Piñon Project | by the Submergence Collective: Kaitlin Bryson, University of New Mexico, (US) + Hollis Moore, The Institute of Applied Ecology (US), Mariko Oyama Thomas Skagit Valley College Washington (US), Rachel Zollinger, University of Arizona (US)

16:00

Bosque Vacío | Leena Lee, Universidad Nacional Autónoma de México (MX)

16:15

Mexican Electronic Art: Reflecting the Roots of Ancient Mexico | Cynthia Villagomez, Guanajuato University (MX)

16:30

Wrap up/closing



## July 26h, Wednesday / Closed session – Taos Center for the Arts

### Session E: In-orientation

**Timekeeper: Roberta Buiani**

10:00

Welcome/Information

10:15

Eco Systems: Environmental Data Visualization in Computational Art | Grace Grothaus, York University (CA)

10:30

Psycho-sonic-geo Soundscapes | Jackie Neon/Simon, Independent (US)

10:45

Women media artists: changes, visibility, comparisons | Nina Czegledy, OCAD University Toronto (CA)

11:00

Étalon – a performative walk in search of the meter | Sara Morawetz, Independent (US)

– Break 11:15 – 11:45

11:45

The Decolonial Mycelial Mess Kit: Bringing Ceremony and Mycoremediation to the Table | Carol Padberg, UNM (US)

12:00

Data-Phantoms: Impossible Nests (memories post extinction) | Clarissa Ribeiro, Roy Ascott Studio (CN)

12:15

The Ritual of Sacrifice in the Lab – using bacteria as machines | Mirela Alistar, University of Colorado Boulder (US)

12:30

Animating the Vitality of New Mexico's Alluvial Fans | Kelly Monico, Metropolitan State University of Denver and Fort Union Ranch, NM (US)

– Break 12:45 – 14:00

### Session F: Un-digested

**Timekeeper: Jackie Neon/Simon**

14:00

Confessional Kiosk | Kaitlyn Smith, University of Arizona (US)

14:15

All quiet on the Western Front | Carolyn Angleton, FCBioArts (US)

14:30

Home is Where the Maqlouba is: An Overview of a Bioart workshop | Jude Abu Zaineh, Rensselaer Polytechnic Institute (CA/US)

14:45

Fusion: Landscape and Beyond | Mingyong Cheng, Visual Arts Department, University of California San Diego (US)

15:00

Wrap up/closing

## July 27h, Thursday / Closed session – Taos Center for the Arts

### Session G: Re-production

**Timekeeper: Leena Lee & Jude Abu Zaineh**

10:00

Welcome/Information

10:15

The Ex-Utero Collective: Works In-progress | Cristin Millett, The Pennsylvania State University (US)

10:30

20 years in 10 minutes: Reverence, Reciprocity, Connection and Collaboration: An overview of Public Outdoor Works, Collaborative Works and Vortex Weavings | Jennifer Zackin, Streamside 7 – Chokechaka (US/PE)

10:45

Symbiotic Mitochondria: Towards a Collaborative Feminist Praxis | Alessandra Santos, Department of Theatre and Film, University of British Columbia (CA) + Freya Zinovieff, Simon Fraser University (CA)

11:00

Soft chemistry in hard times: boundary work at the natural/synthetic divide in feminist textile practices | Lisa Cartwright, UC San Diego (US) + Stephania Torres-londono, UC San Diego Design Lab/Visual Arts Department (US)

– Break 11:15 – 11:45

11:45

Queering the Audiovisual Signal | Senem Pirlar, Bennington College (US) + Monica Duncan, Lehman College-CUNY (US)

12:00

If songs are alive, why can't AI be alive? | Cecilia Vilca, MyAP – Microscopía Electrónica y Aplicaciones en el Perú (PE)

12:15

The Leech House Series | Ryder Cooley, Rensselaer Polytechnic Institute & Sanctuary for Independent Media – Nature Lab (US)

12:30

Uncanny Territory: The Topography of Ruin, Decay and Regeneration | Natascha Seideneck, MSUDenver (US)

– Break 12:45 – 14:00

### Session H: Un-bridged

**Timekeeper: Agnes Chavez**

14:00

Tending Ostreidae: Serenades for Settling: Ungrounding our Terrestrial Senses | Stephanie Rothenberg, Department of Art, University at Buffalo (US) + Suzanne Thorpe, Manhattan College (US)

14:15

Storytelling in the fibers of living anatomies: more-than-human mythologies, synthetic biology, and biodiversity loss | Viola Arduini, Independent (US)

14:30

Retelling Stories: Museums and Decolonizing Art History, | Juniper Leherissey, Harwood Museum of Art, Taos NM (US)

14:45

Let the Art speak for itself | Ellen Wetmore, The University of Massachusetts, Lowell (US)

– Break 15:00 – 15:15

15:15

FEMeeting Taos: core meeting

## July 28h, Friday / Free day Workshops

### Sustainable art practices: 3D printing with Live Matter

by Darya Warner, The United States Airforce Academy (US)

Venue: Oo-Oo-Nah Art Center

Host: Taos Pueblo Education and Training Division, Bettina Sandoval

Dates: July 24 and 28

Audience: Oo-oo-Nah Art Center summer camp children

### Interactions with Living Leather

by Mirela Alistar, University of Colorado Boulder (US) and Fiona Bell, University of Colorado Boulder (US)

Venue/Host: UNM-Taos Hive

About: <https://sites.google.com/colorado.edu/scoby-workshop>

Time: 9-12pmMT  
Audience: All ages

**Seismic Listening: From ground vibrations into electronic signals, listen to the sounds of our shared environment**

by Senem Pirlar, Bennington College (US) and Monica Duncan, Lehman College – CUNY (US)

Venue: Northern New Mexico College

Host: STEM Santa Fe

Time: 2pm-5pmMT

Audience: Ages 12+

**Sunrise Sensory Walk/ Workshop**

by Allie Wist, Rensselaer Polytechnic Institute (US) and Lisa Ann Schonberg, Rensselaer Polytechnic Institute (US)

Venue: Kit Carson Park playground

Audience: All ages

**Five chairs**

by Clarissa Ribeiro, Roy Ascott Studio (CN) and Claudia Jacques, CUNY BCC and SUNY WCC (US)

Venue: Taos Center for the Arts

Audience: All ages

## July 29h, Saturday / Public session – Harwood Museum of Art

### Gender and ArtSci in the Americas

12:00

Marta de Menezes, Cultivamos Cultura – Ectopia (PT) + Dalila Honorato, Interactive Arts Lab, Ionian University (GR/PT) + Agnes Chavez, STEMarts Lab (US) + Andrea Polli, The University of New Mexico and SciArt Santa Fe (US)

12:20

Roberta Buiani, Fields Institute for Research in Mathematical Sciences (CA)

12:40

Rebecca Cummins, University of Washington, Seattle (US)

13:00

Clarissa Ribeiro, Roy Ascott Studio (CH)

13:20

Cynthia Villagomez, Guanajuato University (MX)

13:40

Q&A

## July 30h, Sunday / Public session – SITE Santa Fe

### Bioart and Gender in the Americas - LASER talk

11:00

Marta de Menezes, Cultivamos Cultura – Ectopia (PT) + Dalila Honorato, Interactive Arts Lab, Ionian University (GR/PT) + Agnes Chavez, STEMarts Lab (US) + Andrea Polli, The University of New Mexico and SciArt Santa Fe (US)

11:20

Leena Lee, Universidad Nacional Autónoma de México (MX)

11:40

Cecilia Vilca, MyAP – Microscopía Electrónica y Aplicaciones en el Perú (PE)

12:00

Carol Padberg, UNM (US)

12:20

Kathy High, Rensselaer Polytechnic Institute, BioArt & Technology Lab – NATURE Lab, North Troy (US)

12:40

Q&A

