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New Sentient and Spectrums: A Conference on Sound and New Media Art

CITAR - Research Center for Science and Technology of the Arts is excited to announce the 2nd edition of the Explorations on Sound and New Media Art Conference, taking place from November 13-15, 2024. Building on the dialogue established by the first edition, this event will delve into the intersections of sound, art, science, technology, and consciousness.

The conference, titled «New Sentient and Spectrums», will explore how new artistic expressions influence our identity, challenge conventional thinking, and reimagine the Anthropocene experience. Participants are invited to embrace the concept of the "new sentient," which offers innovative ways to examine consciousness, interaction, and the essence of new media art practices. The conference will push the boundaries of our perception in the post-digital, post-internet age.

This exploration will include discussions on the idea of Spectrums, allowing participants to engage with various dimensions of the artistic realm. From traditional and digital media to conceptual and sensory explorations, the idea of Spectrum embraces concepts such as the manifestation and appearance of instances and memories, as well as the exploration of elements within the range of the visible and audible. This inspirational perspectives invite us to discuss creation and the practice in sound and new media art.

Conference Programme

November 12		November 14	
November 13			
9:30 - 10:30	Participants admission	9:30 - 10:30	Participants admission
10:30 - 12:30	Panel Sessions 1	10:30 - 12:30	Panel Sessions 3
M(ol)AR, HYBRID LANDSCAPE: Radio waves as an extended ecology Esteban Agosin		Interactive art and co-creation of the artwork - Future Park exhibition by teamLab Raffaela Daboval	
Akousis Anis Haron and	d Roopesh Sitharan	Meridian Sviatlana Bayeva	and Peter Pawlaw
Live Coding a	n Sound Art: Echoes of Memory, nd Generative AI and Brandon Invergo		ltimedia Performances and aspired by Astronomy
	s: Structures and Indeterminate in Wendy Reid's Tree Pieces		ospheres: attunement as a ecocentric empathy arte Regino
14:00 - 15:30	Keynote: Brandon LaBelle	14:00 – 15:30	Keynote: Anna Dumitriu
Sounding Cosm	nopoetical Futures	BioArt Revolution Science through	
15:30 - 16:00	Coffee Break	15:30 - 16:00	Coffee Break
16:00 - 17:30	Panel Sessions 2	16:00 - 17:30	Panel Sessions 4
and Social Bel Development Fabric of Caire Abla Abd El N		communication Jéssica Gaspar Artificial Intelle experimentation	Interfaces for unheard ins igence and the costume design in: design research of the al do Teatro e da Dança
	bstract environmental and	costume drawi Michele Dias Au	ngs collection igusto
Off-screen. On Leonor Reis	n the subversiveness of sound	Experiences: A and Creation M	Flatness" of Screen Study on the Classification Aethods of Screen Applications McLuhan's Media Theory
		17:30 - 18:30 C	Coffe break
			Concert : Inês Castanheira
		(registered partic	tinner: Treze % Restaurant cipants only) Rua da Cerca 440, (Five minutes walking from the

November 15

10:30 - 12:30 Panel Sessions 5

Spectrums and Duration in the Abyssology of João Maria Gusmão and Pedro Paiva Mariana Machado

Costume Analysis Making the Way Back Through Technological Possibilities Mariana Millecco Ribeiro

Sound for Animation: Storytelling Using Immersive Soundscapes in "Percebes" Bernardo Bento

Sounds of Violence: found sound, performance and a database aesthetics in the art of Luz María Sánchez

Ryszard W. Kluszczynski

14:00 - 15:30	Artist Talk: Ernst Karel

Coffee break 15:30 - 16:00

16:00 - 17:30 Panel Sessions 6

A Sentient Strategy On (Re)Searching Cultural Heritage And Media Arts, Through Playing A Research Game Pedro Andrade

Hybrid Terror: The Spectrum of the Orc is Upon Us

Miguel Oliveros Mediavilla

Deep Listening as an Ethical Practice in a More-Than-Human World Dila Yumurtaci

KEYNOTES

Brandon LaBelle

Brandon LaBelle is an artist, writer and theorist living in Berlin. His work focuses on questions of agency, community, pirate culture, and poetics, which results in a range of collaborative and extra-institutional initiatives, including: The Listening Biennial and Academy (2021-), Communities in Movement (2019-23), Oficina de Autonomia (2017), The Living School (with South London Gallery, 2014-16), The Imaginary Republic (2014-19), Dirty Ear Forum (2013-), Surface Tension (2003-2008), and Beyond Music Sound Festival (1998-2002). In 1995 he founded Errant Bodies Press, an independent publishing project supporting work in sound art and studies, performance and poetics, artistic research and contemporary political thought. His publications include: Dreamtime X (2022), The Other Citizen (2020), Sonic Agency (2018), Lexicon of the Mouth (2014), Acoustic Territories (2010, 2019), and Background Noise (2006, 2015). His latest book in sound studies, Acoustic Justice (2021), argues for an acoustic model by which to engage questions of social equality.

Website: https://brandonlabelle.net/

Sounding Cosmopoetical Futures

Questions of agency, of working at paths of self-determination, and the crafting of alliances and solidarities across communities, can be heard to gain traction by way of sounded expressions. From rhythms of coordinated collaboration to the punctuations of noise that interrupt norms of intelligibility, sound lends to mobilizing new social imaginaries and configurations. Exploring these perspectives, the presentation opens a speculative space for attending to sound as a vibrant matter which can contribute to what adrienne marie brown terms "emergent strategies". As brown highlights, emergent strategies work at fostering critical connections and authentic relationships in support of human flourishing. Mapping sound as an emergent strategy, the presentation includes a consideration of listening, and how listening contributes to anchoring us in a shared world. As such, listening fosters compassion and care, enabling forms of mutuality and radical receptivity that give challenge to dominant systems. These perspectives and propositions will be elaborated through specific artistic examples, to explore how sound affords ways of practicing that opens onto a cosmopoetical future of ecological solidarity.

Anna Dumitriu

Anna Dumitriu is an internationally renowned award-winning British artist who works with BioArt, sculpture, installation, and digital media to explore our relationship with cutting-edge technologies, infectious diseases, and synthetic biology. Past exhibitions include ZKM, Ars Electronica, BOZAR, The Picasso Museum, Timisoara 2023 European Capital of Culture, The Nobel Prize Museum, Kunstlerhaus Vienna, MIT Museum, Liljevalchs, Kunsthal Charlottenborg, MOCA Taipei, HeK Basel, LABoral, Art Laboratory Berlin, Taipei Fine Arts Museum, the 6th Guangzhou Triennial, and The History of Science Museum Oxford. Her work is held in major collections, including ZKM, the Science Museum London and Eden Project.

She has been featured in many books including Bio Art: Altered Realities published by Thames and Hudson in 2016 and many other significant publications across contemporary art and science including Frieze, Artforum International Magazine, Leonardo Journal, The Art Newspaper, Art Quarterly, Nature, and The Lancet. She holds artist-in-residence roles with the Modernising Medical Microbiology Project at the University of Oxford, the National Collection of Type Cultures at the UK Health Security Agency, and Institute of Epigenetics and Stem Cells at Helmholtz Zentrum in München, as well as visiting research fellowships with Waag and the School of Computer Science at the University of Hertfordshire as part of the BioComputation Research Group. Current collaborations include The University of Leeds, the Wellcome Sanger, Kings College London, Brighton and Sussex Medical School and BOKU University in Vienna. Website: https://annadumitriu.co.uk/

BioArt Revolutions: Exploring Cutting Edge Science through Art

Anna Dumitriu will discuss how art can explore and communicate our relationship to science and biomedicine at a time when we face rapid and revolutionary changes. She will focus on her recent solo exhibitions "BioArt Revolution", and "The Mutability of Memories and Fates". These breath-taking and beautiful exhibitions weave together alchemy, and the history of science and medicine, with cutting-edge research in biotechnology, and robotics, including CRISPR DNA modification, biomedical AI systems, and neural networks. The exhibitions included sculptures and installations made using bacteria, DNA, altered vintage objects, 3D printing, textiles and digital technologies.

ARTIST TALK

Ernst Karel

Ernst Karel works with sound, including electroacoustic music, experimental nonfiction sound works for multichannel installation and performance, image-sound collaboration, and postproduction sound for nonfiction film, with an emphasis on observational cinema. Lately he works around the practice of actuality/location recording (or 'fields [plural] recording') and composing with those recordings, with recent projects also taking up archival location recordings. Sound projections have been presented at Sonic Acts, Amsterdam; Oboro, Montreal; EMPAC, Troy NY; Arsenal, Berlin; and the 2014 Whitney Biennial. Sound installations in collaboration with Helen Mirra have been exhibited at the Gardner Museum, Boston; Culturgest, Lisbon; KW Institute for Contemporary Art, Berlin; Audiorama, Stockholm; MIT List Visual Arts Center, Cambridge; and in the 2012 São Paulo Bienal. Audio-video collaborations include Expedition Content (2020, with Veronika Kusumaryati), Ah humanity! (2015, with Lucien Castaing-Taylor and Véréna Paravel) and Single Stream (2014, with Toby Lee and Pawel Wojtasik).

CDs of his often collaborative work, including with the electroacoustic duo EKG, have been released on and/OAR, Another Timbre, Cathnor, Gruenrekorder, Locust, Sedimental, and Sshpuma record labels, and a duo with Bhob Rainey is forthcoming on Erstwhile. From 2006 until 2017 he managed the Sensory Ethnography Lab at Harvard University, doing postproduction sound for films including Sweetgrass, The Iron Ministry, Manakamana, and Leviathan. He has taught audio recording and composition through the Sensory Ethnography Lab at Harvard (through 2021), the Center for Experimental Ethnography at Penn (2019), and the Department of Film & Media at UC Berkeley (2022). He is currently an affiliate of the Center for Ethnographic Media Arts at the University of Southern California.

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CONCERT

Inês Malheiro & Inês Castanheira

Inês Malheiro

Inês Malheiro creates sound narratives using the voice as raw material, whether improvised or premeditated - recycling, broken voices and dismembered songs. In 2022, Inês released her debut album "Deusa Náusea" via Lovers and Lollypops and between 2018 and 2020 created "The endless chaos has an end", a music series based on emotional and cheesy moments. In parallel to her solo work, Inês writes music for Sancha Castro's performances, with Nuno Loureiro wrote the soundtrack for Pedro Huet's shortfilm "Croma, o sono", released "liquify, spread and float" (2022), an improvised live performance-album; created the sound design for "Práticas Laboriosas do Enxofre" (2022), an exhibition project created by Coletivo Corisca; released "Canal-Conduto" (2020) with Gonçalo Penas and presented "Organismus Kathársis" at Lisboa Soa.

Inês Castanheira

Inês Castanheira is a transdisciplinary artist and researcher. Her work is a continuous dialog between art and technology, exploring and combining image, sound, electronics, programming and interactivity. She develops projects in multiple domains and collaborative environments, in the form of video, installations, electronic objects, audiovisual performances, concerts and workshops. In recent years, he has investigated and experimented with DIY strategies, hardware hacking and the creative recycling of obsolete or discarded electronic devices.

Panel Chair: Rafael Maia

M(ol)AR, HYBRID LANDSCAPE: Radio waves as an extended ecology Esteban Agosin

Keywords: Speculative Antenna; Sea-water Antenna; Nature Intelligence; Extended Ecology; Radioart; Machine Listening; Hybrid Systems; DIY Technology; Non-invasive Technology; Digital Fabrication.

Abstract:

This research addresses fundamental questions: What role does technology play within the Anthropocene paradigm? How can we speculate about future possibilities by understanding and learning from nature's intelligence? However, it is crucial to clarify that an extractivist approach does not drive this exploration; instead, it revolves around collaboration.

The title of this work deconstructs the word "MOLAR," emphasizing the letters M A R, which translate to "sea" in Spanish, signifying the essential territory of this project. The term "molar" traditionally quantifies electrolyte levels in water or other liquids, a concept central to the project's exploration.

This research investigates the use of organic materials in radio antenna construction, specifically focusing on handmade antennas using seawater electrolytes and salt crystals as electrical conductors. Although this technology is functionally effective, it presents limitations when considered on a larger scale. These devices serve as speculative antennas within this context, offering an alternative perspective on social and technological development in the Anthropocene era.

In this context, the universe of radio waves plays a vital role in discussions of ecology in the Anthropocene era. The radio spectrum, composed of hybrid signals from both natural and artificial phenomena, inhabits our environment and prompts questions about the composition of ecosystems. These signals extend our understanding of ecology, inviting us to explore new, expanded perspectives on the interconnectedness of natural and technological realms.

The research culminated in a site-specific, durational installation born from an exploration of speculative antenna design, radio signal experimentation, and machine listening (AI). The resulting artwork creates a fictional, hybrid landscape where technological elements converge with natural ones: objects, sounds, sculptures, plastic, wires, speakers, computers, rocks, creatures, fluids, motors, and sensors. It juxtaposes electricity with water, plastic with salt, copper with sand, and sound with objects, exploring the tension between the inaudible and the invisible.

This paper documents and reflects on the entire research process and its final art work, examining it from technological, technical, and philosophical perspectives.

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Akousis

Anis Haron and Roopesh Sitharan

Keywords: Sonification, Computer music, AI

Abstract:

Akousis is an art project that utilizes AI to contort the taxonomy of the natural world as defined by the coupling of visual and language. Using Pl@ntNet API that identifies the scientific names of flowers through visual identification engine, such identification is then used as input for musical cryptogram to create musical composition of a flower based on its nomenclature and visual indexing. In this way, Akousis explores the potential of AI in facilitating the possibility of linking knowledge taxonomy with hearing, simultaneously bridging the realms of botany, machine learning, and musical expression. As the generated music emerges as a sonification of botanical taxonomy, it embodies a form of experimental and improvised index of the world, where the inherent qualities of each flower, encoded into musical motifs, give rise to a diverse array of sonic textures and structures. This integration of AI-driven sonification also prompts contemplation on the role of aesthetics for world building, and crucially the potential for AI to serve as a catalyst for innovative artistic exploration for knowledge creation. By presenting a fusion of AI technology, computational creativity, and musical improvisation, this project contributes to the ongoing discourse on the intersection of AI, knowledge and music, offering a glimpse into the possibilities that emerge when artificial intelligence converges with human creativity. Akousis uses Pure Data and Processing, aligning its focus on performative systems and experimental music.

Hauntology in Sound Art: Echoes of Memory, Live Coding and Generative AI Dimitris Batsis and Brandon Invergo

Keywords: Hauntology; Live Coding; Generative AI; Sound Art; Acoustic Memory; Human-Machine Interaction

Abstract:

The project Insiders is a continuation of previous experimental work by Dimitris Batsis, which sits at the intersection of live-coding audio improvisation, hauntology, and multichannel sound expansion. Initially presented as part of an international exhibition, Insiders explores the relationship between sound, memory, and technology, positioning sound as a spectral entity— both ephemeral and timeless. This research aims to contribute to the ongoing discourse on Human-Machine Interaction (HMI) by exploring how sentient technologies shape the audience's experience of sound, memory, and narrative, while also interacting with broader theoretical frameworks such as hauntology and time. Insiders draws heavily from Jacques Derrida's concept of hauntology, where the present is always shadowed by traces of the past and the unrealized futures they imply. Through the process of deconstructing and resynthesizing archived sounds from previous performances, Insiders invokes a spectral form of memory. This memory does not manifest as direct recognition of its origins but rather as an elusive presence—an echo of something

both familiar and unknowable. The audio material in Insiders is manipulated and distorted in real-time using open-source live-coding audio software, creating an environment where sound, space, and memory coexist in a shifting, unstable form. By applying live-coding techniques, Insiders redefines traditional performance dynamics. The code's execution generates asynchronous, unpredictable sounds, altering the performer's relationship with their material. Live coding introduces a temporal dislocation where the performer, much like the audience, navigates the present moment without full control over its outcome, evoking the same spectral presence of sound that hauntology speaks to. Meanwhile, a generative AI model trained on the artist's previous performances generates imperfect specters of the past. The artist writes code to anticipate future sonic outcomes, while the AI resurrects fragments of past performances in real-time, haunting the present with echoes of previous sound works, previous "lived time". This interplay between human intention and machinedriven memory blurs the line between past and present, creating a constantly shifting soundscape where the past resurfaces to influence and reshape the present. One of the project's key innovations lies in its use of multichannel sound setups to shape the listener's experience. By distributing sounds across multiple speakers, a spatial framework arises where the audio can move dynamically within a space. The audience is enveloped by soundscapes that do not simply replicate reality but create new auditory spaces—both real and imagined. This manipulation of sound via reverberation and acoustics allows the system itself to become sentient in its ability to reflect and alter memory. The space itself turns into a hauntological medium, altering the original audio event and returning a memory of it. Reverberations embody the memory of the space itself, reinforce this idea; acting as phantom presences, intangible yet deeply affecting the audience's perception of sound and space. The project also invites the audience to participate in the creative dialogue between past and present by incorporating another generative AI model that performs real-time timbre reassignment of participants' voices to that of the artist's voice while they read from a text. This technological intervention raises questions about authenticity, presence, and the role of human agency in performance. The ersatz nature of the generated voices—deliberately low-definition and lossy—underscores the project's thematic engagement with spectrality and haunting. Like the dispassionate narratives of Bret Easton Ellis, the AI-modulated voice contributes to the eerie, detached atmosphere, presenting an unsettling blend of human emotion and machine-driven coldness. The use of sentient technologies within Insiders opens avenues for future exploration, particularly in terms of audience interaction and immersive experience. By integrating real-time audience input with AI-driven sound generation, future iterations of the project could deepen its exploration of human-machine collaboration. Furthermore, the spatial dimension of the performance, realized through multichannel setups, offers endless possibilities for manipulating the acoustic environment, allowing the performer to create unique, site-specific experiences that challenge the boundaries between memory, space, and sound. In conclusion, Insiders presents an evolving investigation into the ways human-machine interaction and sentient technologies can transform both performance art and our understanding of sound as a spectral entity. By blending live coding, AI-driven vocal manipulation, and multichannel soundscapes, the project asks us to consider how the past and the future resonate in the present moment, using sound and space as the primary tools for exploring these themes.

Bio: https://belencerezo.net/

Careful Forests: Structures and Indeterminate Interplay within Wendy Reid's Tree Pieces

Ralph Lewis

Keywords: Wendy Reid; Eco-Minimalist; Site-Specific

Abstract:

In Jennie Gottschalk's Experimental Music Since 1970, there is a call to arms of sorts: to de-center the discussion of experimental music practices from the "rules and limitations" of the New York School (Cage, Feldman, et al.). In doing so, we can better examine the rich, diverse experimental practices that have persisted in our world even without the constant attention established, often male, experimental composers have received. San Francisco Bay Area-based composer and violinist Wendy Reid has developed one such personal practice over the last five decades through her series of Tree Pieces. After studying music composition with Nadia Boulanger in Paris, with Robert Ashley and Terry Riley at Mills College, and electronic music at Stanford University with John Chowning, Reid has devoted her creativity to an eco-minimalist music, "reflect[ing] nature's manner of operations, specifically that of inter-connection."

The musical approach contained within her nearly 70 Tree Pieces has, according to Tim Perkis, developed "a world of quiet and naturalistic sound." Using Gottschalk's modes to examine experimentalism as a framework, this paper will discuss Reid's unique notation (from the bottom of the score to the top, as if a tree), navigating indeterminacy and improvisation within them (moving between branches), as well as the series' site-specific and "ambient bird" pieces with her African grey parrot Lulu. Particular attention will be given to Tree Piece #2, Tree Piece #50 (lulu variations 3), and Tree Piece #66 (ambient bird alone) to learn about the structural and performance practice metaphors that bind her works together.

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Panel Chair: João Cordeiro

Cairene Car-Culture: How are Automobility and Social Behavior Linked to The Development of The Soundscape and Urban Fabric of Cairo Abla Abd El Naby

Keywords: Acoustic Ecology; Car Culture; Practice-Based Research; Performance Art; Social Behavior

Abstract:

The soundscape of Cairo has experienced substantial modifications due to the ongoing urban developments designed to accommodate the increasing volume of vehicles passing through the city. The soundscape created by this expanding automobility is influenced not only by the vehicles but also by the behavior of their owners. Cairenes utilize their cars as a means of communication and an extension of private space. This study examines the vehicle both as a component of the soundscape and as a space that filters it, thereby exploring the interdependent relationship between social behavior, automobility, urban structure, and their combined impact on Cairo's acoustic environment. The research addresses literature concerning acoustic ecology, car culture, urban structure, and social behavior. The methodology employed in this study adopts a practice-based phenomenological approach, documenting and reflecting on car cultural practices in Cairo from an aural perspective. Grounded theory is applied to contextualize the analysis of archived audio and video material, semi-structured interviews, and performances. Performances are utilized as a form of action research to gather public responses and serve as a reflective outcome, wherein selected participants are observed during a staged performance. The staged performance aims to create a suspension of disbelief, allowing participants to focus on understanding their auditory relationships with their cars. While the staged performance is employed as a data collection method, it is also regarded as an artistic and designed outcome derived from other applied methods.

Experiments in spectral manipulation for new aesthetics in abstract environmental and soundscape composition

Guy Fleisher

Keywords: Soundscape Composition; Spatial Composition; Environmental Composition; Electroacoustic Music; Sound Art; Spectral Music; Spectral Manipulation

Abstract:

The project, entitled "Re-compose/De-compose", explores critical listening practices within environmental sound art, while re-purposing technological innovations for aesthetic experiments in abstract environmental and soundscape composition. It is a

practice-led enquiry into possibilities of immersive soundscape composition through manipulation of field recordings' spectral content. It was exhibited in a listening session at Universidade Católica Portuguesa, School of Arts, Research Centre for the Science and Technology of the Arts, July 2024.

This presentation is a descriptive analysis of the composition approach and process using spectral manipulation techniques for new aesthetic possibilities; it explores the range between abstracted composition and soundscape composition.

More specifically, the project explores four spectral techniques for new environmental composition practices, adopting an original approach in practice-led research. It examines their usage to uncover (or decompose and recompose) field recordings' spectra, for new electronically crafted interdisciplinary aesthetics. The spatialization technique is explained and showcased, as well as the user interface for the dynamic spatialization in real time. This spatialization techniques used for playback uses a custom design of a 3-dimensional 9.1 Higher Order Ambisonics (HOA) diffusion system (based on novel technologies developed at IRCAM), for an increased immersive experience. These are also presented and explained, with artistic considerations emphasized.

In this presentation, these spectral techniques will be further explained and analyzed for their aesthetic value within the compositional framework. The compositional process is explored by showcasing examples from separate parts of the final composition, comparing unmanipulated and manipulated material side by side. Additionally, technical specifications of the final composition, using live examples based on custom modules developed using the Max/MSP software, are explored. The presentation aims to be an exploration of interdisciplinary composition practice, while raising critical questions regarding modes of listening and our perception of acoustic ecology, sound art, and soundscape composition as an abstracted practice. It supports the question: "

Lastly, conclusions from the presentation of the project are presented, while encouraging a discussion on the topics presented. The discussion is based on conclusions initially presented after the original project presentation at Escola Das Artes, July 2024.

Bio: http://www.guyfleisher.com

Off-screen. On the subversiveness of sound

Leonor Reis

 $Keywords: Sound-design; The \ Zone \ of \ Interest; Levinas; Off-screen; Subversion$

Abstract:

From the ubiquity of visual metaphors in both our ordinary and specialized languages, to visually imbued cultural social practices, there is in Western culture, and in its philosophical tradition, a conatural privileging of sight, of vision over our other senses, and namely sound, which always seems to come second. That much has been true at least since the Renaissance, and despite many who, throughout the 20th century, have manifested a profound suspicion of the hegemonic role of vision in the modern era, producing invaluable anti-visual discourses, ours remains an essentially

visually oriented world, something that the social networks have only come to aggravate. The film industry, needless to say, is not immune to this, nor are film critics and theorists who, with very notable exceptions, Michel Chion for one, have paid little to no attention to sound, being mostly concerned with image-theory, thus perpetuating the subservience not only of sound to the image, but of film itself to visuality. But is cinema really doomed to be (but) a visual medium? And is film sound doomed to be (but) correlate of the film image, a supporting tool, among others, for visual communication? Johnathan Glazer's 2023 film The Zone of Interest has, I believe, shown that this does not have to be the case, and that it in fact should not. If there are films driven by the score, in the case of Glazer's film it is Johnny Burn's sound design — which consists both of diegetic on-screen sounds, and, most interestingly, in off-screen, and thus acousmatic, sound which however defies its own diegetic placement — that drives not only the narrative, but the film experience itself, going beyond the frame, and subverting the inherently intentional relationship between audience and screen and thus, to use of the words of Emmanuel Levinas, "prolonging a dimension inconvertible into vision ... wrenching experience out of its aesthetic self-sufficiency, the here where it peacefully lies" (Levinas, 1987); or as Burn puts it: "They [the audience] can close their eyes, but they can't close their ears." Sound has this ability of itself, but it is seldomly explored, and much less to the degree that this film does. What is interesting is that the innovative use of sound in The Zone of Interest is not so much due to any particular technique, nor does it rely on a given sound technology, for innovation need not be engineering-based (Novack, 2022), and that is very much the case with this film, where it is instead concept and research based, and whose truly immersive quality is given not by some high-end surround sound, but by the credibility of the sounds, which are in fact real (not enacted by actors) and thus by the reality of their acoustics, by their physicality, by their proximity and truthfulness. That is, it takes sounds in their function of sounds, independently from vision, in their materiality, their sonority, i.e., what in the sound sounds: "a pure rupture that does not lead to anything luminous, but instead brings out the light" (Levinas, 2009) — and there is none in Glazer's film. Drawing on the philosophy of Levinas which is throughout a denunciation of the primacy of vision, and a phenomenological (and ethical) attempt to subvert it, namely through his phenomenology of sound and his definition of cinema as the art of Aufmachung, this paper offers a analysis of The Zone of Interest whose sound-design approach seem to us to enact such subversion of visuality and of its objectifying character, standing as a unique exploration of sound-design as a means, beyond visuality, beyond representation and thematization, to a full and truly meaningful audiovisual experience.

Panel Chair: Cristina Sá

Interactive art and co-creation of the artwork - Future Park exhibition by teamLab

Raffaela Daboval

Keywords: Interactive art; Virtual Art; Multi-Sensory Art Experiences; Technology; Co-Creation; The Museum of Installation; The Museum Of Experience; Borderless; Future Park; Teamlab Collective; Collaborative Creation

Abstract:

This paper will start with describing the exhibition called "Future Park": an exhibition held at the Powerhouse Museum in Sydney in April 2018. I had the chance to see it multiple times as I was volunteering at the Museum supervising the flow of visitors. Future Park was created by the international art collective teamLab, and it is a kind of digital art exhibition where the viewer actively interacts with the artworks: that interaction creates different end results so that the experience will actively vary for each visitor. The exhibition was in a dark space and composed of eight interactive light installations: one for example was "Light Ball Orchestra": a series of led illuminated balls of different colours and dimensions which the viewer would roll, creating different symphonies. The balls would change colour as the visitor interact with them. Another installation called "Graffiti Nature – Mountains and Valleys" would allow the viewer to imagine and draw animals, then the drawing would be digitalized right away and projected through lights, allowing the participants to walk within the live forest that was collectively built and see their creation moving even on their own body. This kind of exhibition allows to point out at least three reflections which are relevant for contemporary art discourse. First, it can be said that every exhibition creates different experiences for each viewer, although in this case it is the active interaction of the viewer with artworks that produces different results. We could see it as an act of co-creation where the installation is just the beginning of the artwork. Another point is that the Future Park needs to be experienced in person to exist. A painting or a sculpture exist as an art object when the artist has created it, while the interactive exhibition depends on the viewer actively experiencing, touching, and moving the artworks within the museum. The focus is on the museum of experiences rather than a museum of objects. Last, we might say the immersive exhibition is more "accessible": it can bring to the museum more people who don't have deep knowledge about art. They are not made for art buyers and collectors, as there is no tangible artwork that can be brought outside the museum, as the real artwork is the experience. In the words of Boris Groys art functions in the context of the art market, and every work of art is a commodity; yet art is also made and exhibited for those who do not want to be art collectors, and it is in fact these people who constitute the majority of the art public (Groys). 2 The following analysis will focus on the aspects pointed out from the exhibition Future Park, in relation with interactive art perspective using the agency theory by Alfred Gell and the relational aesthetics by Nicolas Bourriaud.

Meridian

Sviatlana Bayeva and Peter Pawlaw

Keywords: Art contemporary; Light; Media; Street art; Grafity; Space

Abstract:

The media project "Meridian" explores an approach to visual art through light and media, inviting viewers to participate and interact. The project plans to combine visual elements with a musical composition by the musician Pit Pavlov. This integration of music and visual media expands the traditional boundaries of art, creating a multimedia space where viewers can immerse themselves in a unique interdisciplinary experience. The central theme of "Meridian" is a line that connects various points, serving as a metaphor for the intersection of the past and the future, science and art, microcosm and macrocosm. Viewers are invited to interact with the artworks, making changes to their structure and forming new visual interpretations. Pit Pavlov's music brings a special dimension to this project. Compositions created using analog synthesizers, guitar effects, and acoustic instruments add additional depth and emotional context to the project's visual elements. The project will also feature multimedia components such as projection installations, animation, and light structures that invite viewers to engage and interact. Pavlov's sound accompaniments are tailored to these visual elements, enhancing the audience's experience and making them a part of the performative process. His compositions employ both live instruments and synthetic sounds. He actively experiments with harmony and rhythm, using multilayered sound structures to create atmospheric, immersive compositions. One of the most intriguing aspects of "Meridian" is how it creates an interdisciplinary space where viewers can rethink traditional forms of art through the lens of modern technologies and multisensory perception. It is important to note that the project aims to explore not only the boundaries of perception but also the boundaries of interaction: how sound, light, and movement can be synchronized or, conversely, contrasted with each other, creating new interpretations of familiar themes. Thus, "Meridian" becomes more than just a media project — it is a kind of audiovisual laboratory where art and science merge to create a new dimension of perception. The inclusion of Pit Pavlov's music gives the project additional depth, allowing viewers not only to see but also to hear the "line of time" and its connection to cosmic and earthly rhythms. For the audience, this is a unique aesthetic experience.

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Immersive Multimedia Performances and Installations Inspired by Astronomy Yuanyuan He

Keywords: Multimedia Performance; Interdisciplinary Collaboration; Science; Technology; Performing Arts; Astronomy; Sensors; Dance; Music; Data Visualization; Super Computing

Abstract:

StellarScape is a collaborative team of scientists, engineers, and artists dedicated to blending art with science and technology. We create captivating multimedia performances and interactive installations that draw inspiration from astrophysical data and scientific concepts. Our events often incorporate live musicians, sensors, electronic music, and dance, all harmonizing through interactive scenography. The result is a seamless fusion of kinesthetic and acoustic sensing with real-time astrophysical simulations. We are advancing multimedia performances as convergence art and science research projects to create new platforms for collaboration, education, and innovation. Our anticipated research outcomes include: (1) showcasing astronomical concepts through media art, music, poetry, and dance; (2) developing software that transforms supercomputer simulations into formats suitable for video projection in performance or exhibition spaces; and (3) pioneering techniques that utilize wearable sensors and infrared cameras to facilitate interactions between performers and generated art, as well as astrophysical simulations. StellarScape embraces an inclusive approach to crafting artistic experiences grounded in scientific data, aiming to make the frontiers of science accessible to diverse audiences and communities. The outcomes will enhance public awareness and improve the communication of scientific research. Additionally, this artistic collaboration aspires to inspire the scientific community by offering innovative representations of their work. This research collaboration sits at the crossroads of astronomy, human experience, and artistic expression, merging music, dance, and socio-technical elements. This paper outlines the motivations and processes from the perspective of the StellarScape team director, highlighting the interdisciplinary leadership required for successful execution, collaboration process, the intended audience experience, and education. We firmly believe that science-driven arts can inspire individuals and society to expand our imagination and curiosity about humanity's potential and place in the universe

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Resonant Atmospheres: attunement as a tactic to foster ecocentric empathy Juan Carlos Duarte Regino

Keywords: Immersive Soundscapes; Interactive Media; Environmental Sound Art; Atmospheric Attunement; Weather's Resonance

Abstract:

Augury (Resonant Atmospheres) is an interactive installation that delves into the interplay between environmental sensor stations and the ancient divinatory practice of Augury, where the behavior of birds was closely observed to predict seasonal changes. Inspired by this tradition, the installation employs cutting-edge sensor technology to create soundscapes that resonate with the atmosphere, translating data and signals from the surrounding weather into immersive auditory experiences. Using meteorological sensors as instruments, the installation captures the subtle dynamics of wind motion, air pressure, and light, crafting sound and light compositions that transcend the limits of human perception and deepen our connection to the natural environment.

Central to the installation is the integration of obsidian artifacts, which activate a fog machine and evoke the Aztec divinatory ritual of the Smoking Mirror (Tezcatlipoca). These obsidian mirrors, symbolic of the link between the material and spiritual worlds, were historically used for divination, allowing individuals to perceive reflections of themselves and the environment, particularly in weather predictions. By touching each stone and mirror, participants can access the unique sounds generated by various sensor stations outside the gallery.

In addition, the installation features two interactive, touch-sensitive interfaces modeled after ancient instruments—the Tubo Cochleato and the Aeolian Harp, conceived by Athanasius Kircher in the 17th century. These interfaces enrich the experience by allowing the audience to engage with contemporary interpretations of these historical instruments, further bridging the gap between past and present, natural and technological, human and environmental.

This paper will detail the latest iteration of this immersive and sensorial artwork, exhibited at the Klaipeda Culture Center between mid-October and mid-November 2024, in Lithuania.

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Panel Chair: André Baltazar

Symbiophone - Interfaces for unheard communications

Jéssica Gaspar

Keywords: Symbiosis; Mycorrhizal Network; Sound; Growth Pattern; Interactive Installation; Bioart

Abstract:

Departing from considerations on the meaning of existing in an inherent global symbiosis, as well as, a search for distinct interfaces for inter-species communication, the present investigation combines microbiology and acoustics through an artistic practice, creating a path to uncover possible hidden dialogs and alternative ways of perceiving. As such, this research emerges from three main questions: Do human derived sounds affect the mycelium growth? Can noise pollution from highways, factories or busy areas affect the mycelium, hence affect the forest eco-system? Is it possible to create a dialog through the use of sound frequencies and vibration, producing a sound maze and generating a response though the growth pattern of the mycelium? The first endeavor into set research focuses on the last question, resulting on the development of the audiovisual interactive installation intitled Symbiophone.

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Artificial Intelligence and the costume design experimentation: design research of the Museu Nacional do Teatro e da Dança costume drawings collection

Michele Dias Augusto

Keywords: Multimedia Experimentation; Digital Art & Culture Heritage; Artificial Intelligence & Creativity; Costume design; Design research

Abstract:

The paper intends to showcase new ways of costume design research and museum practices. Using the digital tools and the qualitative data of the costume illustrations of the Museu Nacional do Teatro e da Dança of Portugal as the main resource. The work developed a hyper-realistic representation study of characters by Artificial Intelligence. It intends to create, from the costume design, a sensitive and material layer of the character through digital three-dimensional digital creations. The goal is to exemplify the cases of collections that no longer have the costumes, or the plays not shown to demonstrate how these pieces could be on a realistic body figure. The practice method helps to acquire new knowledge and understanding about a collection. "From practice to reflection and research, focused on creative practice as a means to develop new insights and understandings" (Niedderer and Roworth-Stokes, 2007) about the practice of costume design and how this could lead to a new

interpretation of the "common" practice of this form of creation. Based on the AI experimentation, the 3D realistic representation of the drawing, using the expository character (Santos, 2018) in which the research has direct involvement with the object by interacting with the initial data from the qualitative study of the original images. It is the process of continuous experimentation through reflection, modification and evaluation of the new results generated in which the objects stay connected with the museum data and create an experiential and shareable relationship (Saikaly, 2004) between various media and audiences. To this end, the work aims to contribute to ways of displaying and disseminating the memory of performing arts collections to the public. The practice is used to make tacit knowledge available to research (Niedderer, 2007) through the experiential part of knowledge construction of the performative objects.

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Breaking the "Flatness" of Screen Experiences: A Study on the Classification and Creation Methods of Screen Applications in Art Based on McLuhan's Media Theory

Zhiqiang Li

Keywords: McLuhan's Media Theory; Digital Screen Applications; Interactive Media; Multisensory Experiences

Abstract:

With the rapid advancement of digital technology, digital screens have become widely used in contemporary art galleries due to their low cost, ease of installation, and ability to display virtual images. However, despite their extensive usage, digital screens are often reduced to mere containers for content, disconnected from the audience's experience. This superficial use results in the "flattening" of the viewer's experience, limiting the potential for deep interaction between digital media and the audience. To address this issue, this paper introduces Marshall McLuhan's theory of "the medium is the message," analyzing key concepts such as hot and cool media, media as extensions of man, and media as environments. Based on these theories, the paper conducts a detailed case analysis and proposes four types of digital screen applications: 1. Hot media focusing on visual experiences; 2. Cool media emphasizing multisensory interaction; 3. Tactile experiences highlighting bodily engagement; and 4. Embodied experiences centered on immersive environments. These types challenge the passive, "flattened" role of screens. To realize these screen types, I have innovatively reinterpreted McLuhan's "Tetrad of Media Effects" as a framework for creation and evaluation. Through the practice of artistic works, I demonstrate the practicality of this method as a design framework. Ultimately, these strategies transform the screen into a dynamic bridge connecting the artwork and the audience, fostering deeper interaction and providing more immersive and critical viewing experiences.

Panel Chair: Carlos Natálio

Spectrums and Duration in the Abyssology of João Maria Gusmão and Pedro Paiva

Mariana Machado

Keywords: Spectrum; Hauntology; Duration; Time-Image; João Maria Gusmão; Pedro Paiva

Abstract:

The work of João Maria Gusmão and Pedro Paiva was always continuously accompanied by an equally proliferous textual production. One of the key concepts to face it concerns the concept of abyssology, originating from a homonymous exhibition and respective publication, and that refers to a latent gulf to all reality between it and our perception of it, the indiscernible, the absence of sense. The notion of spectrum and hauntology for Derrida, at a time when hyperreality as stated by Baudrillard announced the death of the media in its material condition, becomes progressively more illustrative for analyzing images in the contemporary context. In this sense, the demand for spectrums in cultural expressions developed by Mark Fisher in his own hauntological project seems to materialize this intersection, with an essential part of these expressions being a temporal distance that seems to reflect a pessimism in relation to an absence of a future. Continuing the path traced by the author, we will investigate how the duo's abyssological project refers to the ghostly condition of the moving image in contemporaneity. Using the homonymous exhibition as a case study, where accompanied by sculptures we find series of small films projected throughout two rooms, we will try to understand in what ways the logic of absence and the invisible arises highlighted by the temporally anachronistic objects developed by the duo. Searching for the empty space, the invisible abyss underlying reality, spirit photography practices will be the point of union that will allow us to find the self-referential nature in the artists' work. The functioning as "truth mechanism" that makes the supernatural element in these photographs possible will also be the engine for the construction of the duo's para-scientific fictions. Finally, when we legitimize the spectrums invoked in the pieces, another concept will flourish as instrumental to understand the artists' process: that of duration, as defined by Henri Bergson, where the notion of time takes on a nonprogressive character. As this is a fundamental basis for Gilles Deleuze's cinematographic studies, the concepts of movement-image and time-image will represent precisely the intersection between this idea and a direct contact capacity with the spectrums in question, differentiating these objects from the spirit photographs analyzed. Unlike spirit photography, that aimed to capture a real spectrum, we will try to trace in this work a vector that creates and invokes them in the expository space itself.

Costume Analysis Making the Way Back Through Technological Possibilities Mariana Millecco Ribeiro

Keywords: Technology; Creativity; Digital creative process; Costume design studies; Film Studies.

Abstract:

The proposal is based on the researcher's experience in academic production and as a performing arts professional, conjuring the practice of costume designers with my doctoral research, in which the same digital media and technological resources are being used to analyse and create the image. My PhD thesis aims to analyse how a visual narrative of nineteenth century Brazilian women is constructed through the lenses of gender and colonization, and its impact on Brazilian culture. I emphasize the role played by visual, material and immaterial elements, all of which work together to create the characters' visual narrative. As the main material of my research is the visual narrative construction of characters in audiovisual productions, to further analyse the costumes I developed a methodology to detach material from the productions by extracting multiple and fractured views of the same scene, then layer them over each other to create a collage. By applying the moving image of films and a series of artistic concepts, like the cubism art movement theory as a methodological approach to the practical experience and knowledge in costume design and its technological possibilities using the drawing app on the collages, I could re-build the scene costume design. Using costume design and digital tools as a resource for semiological analysis to understand the costume designer's creation process, obtained from the final result - the scenes and framing. Therefore, I intend to demonstrate the possibility and artistic quality that technological applications can achieve, in a reverse process when we, as researchers of the image don't have access to the original project. It also argues that the relationship between academic production and practical production are two sides of the same coin that relate to symbiosis and the necessity for artistic and cognitive expansion of creative processes.

Sound for Animation: Storytelling Using Immersive Soundscapes in "Percebes"

Bernardo Bento

Keywords: Sound Design; Soundscape; Audiovisual Ecology; Animated film; Cinema

Abstract:

In documentary cinema, particularly animated films, sound design plays a crucial role in communicating the director's vision. Within live-action documentaries, real-world sounds complement visuals, and the same approach is used in the documentary, "Percebes", an animated film that draws a parallel between the life cycle of goose barnacles and the lives of the people native to the Algarve region in southern Portugal.

This paper explores how immersive sound design was crafted to effectively convey the directors' vision by constructing sound ambiences assisted by the concept of soundscape – a range of sounds emerging from natural environments – and

audiovisual ecology, focused on realism, geographic context, and authenticity. Drawing on these classifications, it is shown how acoustic ecology contributed to the film's sound design by offering an understanding of the formal organization of the illustrated space, beyond just an appreciation of sound. The integration of hi-fi and lo-fi soundscapes categorization from R. Murray Schafer - where hi-fi environments highlight distinct sounds and lo-fi environments mask them with noise - is explored, particularly in the context of documentary film sound design. The article builds upon the need to analyze both auditory and visual space components to comprehend a film's audiovisual ecology fully.

By integrating real-life interviews as the basis of the animation, the design of multiple soundscapes was one of the mechanisms employed to connect factual storytelling with the artistic nature of animation. Using multi-microphone and ambisonic recordings of distinct environments in Portugal, the sound design provided the relationship between natural and human-made sounds in "Percebes". Parallelly, the study investigates how these sonic environments shape the perception

Parallelly, the study investigates how these sonic environments shape the perception of place in animated film and how technical and artistic tools commonly used in the industry were combined to create an immersive experience, allowing sound to help communicate characters' life stories and challenges.

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Sounds of Violence: found sound, performance and a database aesthetics in the art of Luz María Sánchez

Ryszard W. Kluszczynski

Keywords: Transdisciplinarity; Found Sound; Database Aesthetics

Abstract

Luz María Sánchez is a Mexican-born, transdisciplinary sound artist and researcher based in Spain and Norway. Her multimedia, hybrid art represents the most critical trends in contemporary art. Sánchez's artworks revolve around an archive/memory and focus on violence and its institutionalisation. Her multifaceted, transdisciplinary works depict the post-disaster landscape, expressing a sense of hopelessness and loss. However, her art simultaneously initiates oppositional actions and proposes tactics of resistance. Her artworks emerge from analytical studies that result in archives collected by the artist, which serve as the basis for artworks.

In my paper, I analyse strategies of sound use in complex, hybrid artistic structures. I am interested in how the use of found sound is combined with its performance and how these two sound strategies come together within a database aesthetic. I analyse the functions of generativity, which transforms both sound performance and sound structures emerging from databases. I study the semantics and aesthetics of the relationship between sound and sculptural forms, drawings and projections. I also examine how the context of the various media used in her transmedia sound-based artworks - the internet, virtual reality, interactive installations and audience-moderated projections - influences the experience of the sound structures and the holistically framed individual works. I also explore how these elements interact in an exhibition

setting, how the overall exhibition audio sphere is created, and how they are relevant to the exhibition experience of individual works. To this end, I analyse numerous works by Sánchez, for example, Untitled [Police Radio Frequencies], 2005-2010; 2487 (2006); Untitled [Cardinal's Message] (2010-2012); Vis.[un]necessary force_1 (2014-2025), Vis.[un]necessary force_4 (2019); Power Room (2024 ongoing).

Panel Chair: João Pedro Amorim

A Sentient Strategy On (Re)Searching Cultural Heritage And Media Arts, Through Playing A Research Game

Pedro Andrade

Keywords: Sentient (Re)Search; Cultural Heritage; Research Game; Games Social Impact; Cultural Publics

Abstract:

Objectives.

This present project encompasses two main objectives: firstly, a debate on the sentient dimension of research, in particular using gamification, within the confluence of science, technologies and media arts. Secondly, a more practical purpose of playing and transfer cultural knowledge using a specific genre of serious game, the Research Game, in order to transfer knowledge articulated with feelings, perceptions, desire, sensorial conscience and other characteristics of the sentient concept, among diverse social and cultural stakeholders.

2. Departing questions for discussion

How research within science in general and social/human sciences in particular uses sentient game strategies, mainly within serious gaming, for searching and researching, analyzing and interpreting, or disseminating information and knowledge? How can this 'gamed research' perspective be applied practically, using sentient traits, e.g., to allow academic users belonging to universities and public institutions and organizations (researchers, teachers, students), to be sensible partners within digital and social networks, by performing 'affective' to be 'effective', whing the hybridization of scientific, technological and artistic research, in order to reach stronger social and cultural impact of their works and events?

- 3. Methods and development of Research Game versions. Examples from former related finished projects include: the Sociological Game Major Valentão / Major Bully (2006), presented at Sociedade Nacional de Belas Artes, the Trichotomies Game (2010), shown at Museu Coleção Berardo; and Sociological (Re)search Game (2014-2021). This last one will be illustrated via various stages of a gaming research strategy, such as storyboard extracts, the game's interface, characters, knowledge types, Sherlock and Columbo (Re)search methods, books, journals, theory, concepts, knowledge methods and knowledge types' testing via mini-games; state of the art tests through puzzles, questions, hypotheses, sociological methods e.g. direct observation and interviews, biographies, visitors puzzles, opinion surveys, contents, keywords, propositions/semantic analyses, social networks, Web 3.0 sites.
- 4. Social, cultural and pedagogic impact: Some clues will be suggested on the effects of this research sentient gamification methodology, perceived by the main involved

social agents, such as universities porfessors, reserachers and students, museums staff, corporations' managers, intercultural publics e.g. citizens, tourists and migrants.

5. Conclusion. Future development is being conducted on a new prototype made via Unity intermedia development software, within a 3D social ambient.

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Hybrid Terror: The Spectrum of the Orc is Upon Us

Miguel Oliveros Mediavilla

Keywords: Hybrid War Machine; 360-Degree Documentation; War Crimes; Psychological Warfare; Existential and Global Conflict

Abstract:

Since Russia's full-scale invasion of Ukraine in February 2022, the author has employed 360-degree sound and video technologies to meticulously document the aggression and war crimes against the Ukrainian population. These field studies expose the multifaceted nature of the conflict, which combines traditional military tactics with psychological warfare, cyberattacks, and disinformation campaigns. The research also delves into the existential dimensions of the war, using the metaphor "The Spectrum of the Orc" to depict the dehumanizing and brutal forces at play. By integrating immersive audio-visual documentation with oral history techniques, this study seeks to reveal the full extent of the hybrid terror threatening Ukraine and beyond, highlighting the urgent need for global awareness and accountability.

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Deep Listening as an Ethical Practice in a More-Than-Human World Dila Yumurtaci

Keywords: Deep Listening; More-than-Human; Eco-consciousness; Embodied Practice; Somatics

Abstract:

This paper is attuned to a frequency that investigates the interconnectedness of Morethan-Human world. My artistic research varies between disciplines from movement to text and image, always participatory in collaboration or a form of engagement through teaching and facilitating the space within. As part of my thesis dissertation, I planned to design and facilitate a lab where I employed some tools of embodied practices mainly focused on Deep Listening.

Listening fosters attentiveness and also creates an awareness towards nature and non-human beings. As Emmanuel Levinas and Luce Irigaray addressed listening 'by openness to the radical other', the ethical standpoint of listening is a powerful reminder for 'care and ecological solidarity' (Abram 1997) while including non-human

entities. By the act of listening, one can understand differences in multiplicity and diversity that has led me to investigate the relationship between interconnectedness and the More-than-Human world. As we started to think through the lens of other beings and having different perspectives including non-human beings, we can deepen our understanding of ethical listening.

"Listening as a way of being and a way of engaging with the world, being intersubjective at its core, discovering the possible ways of cohabiting not only in the realm of inter-human, also on the inter-being level, inter-material." (Bjelica 2022, 39) The lab is a preliminary study to test my ideas about Eco-consciousness to perceive interconnected aspects of listening between participants and their environments consistent all beings. As an artist and somatic practitioner, I employ various artistic methods to explore the connection between the mind and body and its impact on ecological awareness. My motivation lies in the potential for transformative experiences through new ways of thinking, listening, moving, and imagining. I will discuss the implementation of Deep Listening practice as 5days lab that happened this summer in Berlin through participants sharing, and self-reflexive outcomes as an observer.

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