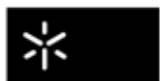




BOOK OF
ABSTRACTS



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ARTECH 2025

BRAGA - PORTUGAL

MEDIA ART CULTURES,
COMMUNITIES & TERRITORIES

12TH INTERNATIONAL CONFERENCE
ON DIGITAL AND INTERACTIVE ARTS

UNIVERSITY OF MINHO
BRAGA, PORTUGAL
26-28 | NOVEMBER | 2025



BOOK OF ABSTRACTS

Ficha Técnica

Livro de Resumos da ARTECH 2025 - 12th International Conference on Digital and Interactive Arts
Book of Abstracts of ARTECH 2025 – 12th International Conference on Digital and Interactive Arts

Paginação: Alberto Sá

Capa: Daniel Brandão

Revisão: Emília Simão

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PREFACE

Two decades of ARTECH conferences

On 12 July 2024, we organised the first edition of ARTECH at the Faculty of Sciences of the University of Lisbon, which we named the “First Luso-Galician Workshop on Digital Arts – Artech 2004”. From the outset, our aim was to establish a series to be held alternately in Portugal and Galicia, in order to “... encourage contact and collaboration between communities on both sides of the border who deal with so-called digital arts, considering their multiple aspects, whether artistic, technological, or social”.

ARTECH 2024 originated from discussions within the consortium of the “@rttec – Art and Technology in Cultural Industries” project, funded by the InterReg III A programme. Its objectives included developing technological platforms to support artistic and cultural activities linked, directly or indirectly, to the “Bienal de Arte de Cerveira” and the “Bienal de Arte de Orense”. It was, in essence, an initiative with a cross-border character between Minho and Galicia. The organisation of Artech 2004 was a collaborative effort by the following entities: the Centre for Computer Graphics, the University of Minho (Department of Information Systems), the Faculty of Fine Arts of the University of Vigo, the Project Association – Cultural Development Unit of the Cerveira Biennial, and Eurographic - Portuguese Chapter. The team was led by Adérito Fernandes-Marcos, President of the Scientific and Artistic Committee, with Henrique Silva from the Cerveira Biennial and Lola Dopico from the Faculty of Fine Arts of the University of Vigo serving as vice-presidents. The local organising committee was headed by Leonel Valbom from the Centre for Computer Graphics and Vitor Sá from the University of Minho.

The subsequent editions took place in Vila Nova de Cerveira (2005, organised by the Cerveira Art Biennial), Pontevedra (2006, Faculty of Fine Arts of the University of Vigo, Galicia), Porto (2008, School of Arts of the Universidade Católica Portuguesa), Guimarães (2010, School of Architecture and School of Engineering of the University of Minho), Faro (2012, Faculty of Social and Human Sciences, Higher Institute of Engineering of the University of Algarve), Óbidos (2015, Universidade Aberta), Macau (2017, Faculty of Creative Industries of the University of Saint Joseph), Braga (2019, Universidade Católica Portuguesa, Teatro Circo), Aveiro (2021, University of Aveiro), Faro (2023, Centre for Research in Arts and Communication of the University of Algarve); and now once again in Braga, with local organisation by the Centre for Communication and Society Research of the University of Minho.

In 2008, we took a bold step forward: we transformed ARTECH into an international conference, broadening our horizons and inviting voices from around the globe to

enrich the creative dialogue. Four years later, in 2012, a significant moment brought everyone together at an ad hoc general assembly, where it became clear that it was time to strengthen the bonds within our community. It was then that the idea emerged to create an association dedicated to representing and driving the collective, embracing a more international role and proudly adopting English, Portuguese, and Spanish as the tools for our expression.

The following year, in 2013, the Artech-International Association was officially founded, sealing the commitment to unity and collaboration among all. And, in 2017, we celebrated another achievement: we registered the conference minutes book on the prestigious ACM platform, ensuring indexing in Scopus and further projecting our accomplishments onto the global stage. Each step was a collective celebration of the innovative spirit that defines the ARTECH series.

Since its inception, the ARTECH conference series has become a true platform for creativity and innovation, bringing together hundreds of remarkable artefacts, digital and interactive art installations that challenge the senses, pioneering scientific articles, and provocative artistic manifestos. Each edition has been characterised by unforgettable encounters and intense debates, where ideas crossed paths, inspired one another, and gave rise to new forms of expression. These vibrant moments not only advanced the academic and artistic development of digital and interactive art but also broadened the horizons of media, digital, and computational art, transforming the ARTECH community into a dynamic laboratory of experimentation and dialogue, where talent and vision come together to shape the future.

Today, as we celebrate two decades of ARTECH, we proudly affirm that every effort, encounter, and collaboration has been worthwhile – for together we have forged a vibrant and global community, destined to lead the future of digital and interactive art in the face of the challenges of process virtualisation, global connectivity, and the emergence of the post-digital era, which unifies and expands tangible and intangible realities.

We march ahead confidently for the next 20 years!

Macau, November 23, 2025

Adérito Fernandes-Marcos
President of Artech-International
Email: aderito.marcos@artech-international.org

PREFÁCIO

Duas décadas de conferências ARTECH

Foi em 12 de julho de 2004 que organizamos a primeira edição da ARTECH, nas instalações da Faculdade de Ciências da Universidade de Lisboa, que denominamos o “Primeiro Workshop Luso-Galaico de Artes Digitais - Artech 2004”, já com a intenção de estabelecer a série a organizar alternadamente em Portugal e na Galiza, para “... fomentar o contacto e a colaboração entre as comunidades dos dois lados da fronteira, que lidam com as denominadas artes digitais, considerando as suas múltiplas facetas, tanto do foro artístico, tecnológico ou social”.

O ARTECH 2004 resultava da reflexão ocorrida no interior do consórcio do projeto “@rtec – Arte e Tecnologia nas Indústrias Culturais”, financiado pelo programa InterReg III A, e que visa desenvolver, entre outros, as plataformas tecnológicas de apoio às atividades artísticas e culturais que acontecem direta- ou indiretamente associadas aos eventos “Bienal de Arte de Cerveira” e “Bienal de Arte de Orense”, ou seja, era claramente uma iniciativa originalmente de natureza transfronteiriça Minho-Galiza. A organização do ARTECH 2004 foi conjunta e assumida pelas seguintes entidades: o Centro de Computação Gráfica, a Universidade do Minho (Departamento de Sistemas de Informação), a Faculdade de Belas Artes da Universidade de Vigo, a Associação Projeto – Núcleo de Desenvolvimento Cultural da Bienal de Cerveira e o Grupo Português de Computação Gráfica. A equipe foi liderada por Adérito Fernandes-Marcos, Presidente do Comité Científico e Artístico, com Henrique Silva, da Bienal de Arte de Cerveira, e Lola Dopico, da Faculdade de Belas Artes da Universidade de Vigo, como vice-presidentes; a comissão organizadora local foi assumida por Leonel Valbom, do Centro de Computação Gráfica, e Vitor Sá, da Universidade do Minho.

As edições seguintes ocorreram em Vila Nova de Cerveira (2005, organizada pela Bienal de Arte de Cerveira), Pontevedra (2006, Faculdade de Belas Artes da Universidade de Vigo, Galiza), Porto (2008, Escola das Artes da Universidade Católica Portuguesa), Guimarães (2010, Escola de Arquitectura e Escola de Engenharia da Universidade do Minho), Faro (2012, Faculdade de Ciências Sociais e Humanas, Instituto Superior de Engenharia da Universidade do Algarve), Óbidos (2015, Universidade Aberta), Macau (2017, Faculdade de Indústrias Criativas da Universidade de São José), Braga (2019, Universidade Católica Portuguesa, Theatro Circo), Aveiro (2021, Universidade de Aveiro), Faro (2023, Centro de Investigação em Artes e Comunicação da Universidade do Algarve); e agora novamente em Braga, com organização local do Centro de Investigação de Comunicação e Sociedade da Universidade do Minho.

Em 2008, demos um salto ousado: transformámos o ARTECH numa conferência internacional, alargando horizontes

e convidando vozes do mundo inteiro para enriquecer o diálogo criativo. Quatro anos depois, em 2012, um momento marcante reuniu todos os presentes numa assembleia geral ad hoc, na qual ficou claro que era hora de fortalecer os laços da nossa comunidade. Surgiu então a ideia de criar uma associação dedicada a representar e impulsionar o coletivo, abraçando uma intervenção mais internacional e assumindo, orgulhosamente, as línguas inglesa, portuguesa e castelhana como veículos da nossa expressão.

No ano seguinte, em 2013, nasceu oficialmente a Associação Artech-Internacional, selando o compromisso de união e colaboração entre todos. E, em 2017, celebrámos mais uma conquista: registámos o livro de atas da conferência na prestigiada plataforma da ACM, garantindo a indexação em Scopus e projetando ainda mais os nossos feitos no cenário global. Cada etapa foi uma celebração coletiva do espírito inovador que define a série ARTECH.

Desde o seu início, a série de conferências ARTECH transformou-se num verdadeiro palco de criatividade e inovação, reunindo centenas de artefatos surpreendentes, instalações de arte digital e interativa que desafiam os sentidos, artigos científicos pioneiros e manifestos artísticos provocadores. Cada edição foi marcada por encontros inesquecíveis e debates intensos, nos quais ideias se cruzaram, inspiraram e deram origem a novas formas de expressão. Estes momentos vibrantes não só impulsionaram o avanço académico e artístico da arte digital e interativa, como também expandiram os horizontes da média-arte digital e computacional, tornando a comunidade ARTECH um verdadeiro laboratório vivo de experimentação e diálogo, onde talento e visão se unem para moldar o futuro.

Hoje, ao comemorarmos duas décadas de ARTECH, afirmamos orgulhosamente que cada esforço, encontro e colaboração valeram a pena – pois juntos forjamos uma comunidade vibrante e global, destinada a liderar o futuro da arte digital e interativa frente aos desafios da virtualização de processos, da conexão mundial e do surgimento do pós-digital, que unifica e amplia as realidades tangíveis e intangíveis.

Avançamos com confiança para os próximos 20 anos!

Macau, 23 de novembro 2025

Adérito Fernandes-Marcos
Presidente da Artech-International
Email: aderito.marcos@artech-international.org

Nota Curatorial

Artech 2025 EXPO - Media Art Cultures, Communities and Territories

A exposição online da Conferência ARTECH amplia o espírito de investigação do evento a um espaço digital partilhado, onde a prática artística e a investigação científica convergem. Concebida propositadamente para um ambiente online, a exposição transforma o ecrã numa área de exploração – um espaço flexível onde imagens, algoritmos, sons e gestos revelam novas perspetivas sobre a cultura, a comunidade e a mediação tecnológica.

Nesta paisagem em rede, artistas e investigadores exploram formas como as tecnologias digitais, como a inteligência artificial ou os ambientes virtuais, passando pelas instalações interativas, robótica e visualização de dados, remodelam a nossa experiência coletiva do mundo. Cada artefacto assume-se como expressão poética e investigação experimental, proporcionando uma visão sobre a relação entre humanos e máquinas, ecologia e computação, memória e dados.

Os projetos artísticos participantes analisam como as comunidades são criadas e sustentadas em contextos com mediação tecnológica e artística. Através da interatividade, participação e processos generativos, entre tantas outras abordagens, eles exploram os conceitos de empatia, identidade e pertença numa era caracterizada pela conectividade ubíqua. Estas obras atuam como uma chamada de atenção para o facto de que as culturas mediáticas nunca são neutras: moldam ativamente a forma como nos percebemos e nos relacionamos uns com os outros, bem como com os territórios físicos, virtuais e híbridos que habitamos.

Nesta exposição, o território transforma-se num conceito poroso que é simultaneamente ecológico, político e algorítmico. Alguns artefactos evocam as alterações ambientais e a fragilidade dos sistemas naturais, enquanto outros geram paisagens digitais especulativas baseadas em dados ou código. No seu conjunto, estas obras oferecem uma interpretação alargada do lugar, como um sistema vivo, no qual camadas materiais e imateriais coexistem e interagem.

Ao estar integrada numa conferência académica, esta exposição demonstra que a criação artística é uma forma de investigação em si mesma. Cada projeto artístico contribui para o conhecimento científico, testando novas metodologias, metáforas e interfaces que expandem a nossa compreensão das ecologias dos meios de comunicação, da mediação digital e da coexistência humano-tecnológica.

Embora a exposição decorra online, ela é complementada pelas exibições dos vídeos nos locais das sessões da Conferência ARTECH, fomentando encontros e oportunidades que permitam um envolvimento mais profundo com as obras de arte e um diálogo direto com os seus criadores e equipas de investigação. Através destas conversas, os visitantes poderão compreender as dimensões conceptuais, técnicas e éticas subjacentes a cada projeto, transformando a observação em troca crítica e descoberta partilhada.

Em última análise, esta exposição convida-nos a refletir sobre como habitamos os espaços digitais e sobre como as nossas ações, dados e histórias influenciam a natureza da nossa existência partilhada. Aqui, a arte torna-se uma exploração, a tecnologia torna-se uma expressão e a conferência torna-se uma comunidade de pensamento, onde as culturas mediáticas evoluem para espaços vivos e colaborativos de imaginação e conhecimento.

O curador gostaria de agradecer a todos os artistas participantes pelas suas valiosas contribuições e gostaria de agradecer especialmente a João Martinho Moura, Susana Gaudêncio, Selma Pereira e Adérito Fernandes-Marcos, cuja ajuda foi crucial para o sucesso da exposição.

Pedro Alves da Veiga
CIAC – Centro de Investigação em Artes e Comunicação,
Universidade Aberta.

Curatorial Statement

Artech 2025 EXPO - Media Art Cultures, Communities and Territories

The online ARTECH Conference exhibition extends the event's research ethos into a shared digital space where artistic practice and scientific enquiry converge. Designed specifically for an online environment, the exhibition turns the screen into an area for exploration – a flexible space where images, code, sound and gestures reveal fresh perspectives on culture, community and technological mediation.

In this networked landscape, artists and researchers explore how digital technologies, ranging from artificial intelligence and virtual environments to interactive systems, robotics and data visualisation, reshape our collective experience of the world. Each artwork operates as both poetic expression and experimental research, providing an insight into the relationship between humans and machines, ecology and computation, and memory and data.

The participating projects examine how communities are formed and sustained in technology and art mediated contexts. Through interactivity, participation and generative processes, among many other approaches, they explore the concepts of empathy, identity and belonging in an age characterised by ubiquitous connectivity. These works serve as a reminder that media cultures are never neutral: they actively shape the way we perceive and relate to one another, as well as to the physical, virtual, and hybrid territories we inhabit.

In this exhibition, territory becomes a porous concept that is simultaneously ecological, political and algorithmic. Some pieces evoke environmental change and the fragility of natural systems, while others generate speculative digital landscapes based on data or code. Together, these pieces offer a broader interpretation of place as a living system in which material and immaterial layers coexist and interact.

By being part of an academic conference, this exhibition demonstrates that artistic creation is a form of research in itself. Each artwork contributes to scientific knowledge by testing new methodologies, metaphors, and interfaces that expand our understanding of media ecologies, digital mediation, and human-technological coexistence.

Although the exhibition takes place online, it is complemented by on-site screenings of the videos during the ARTECH Conference. These encounters provide vital opportunities to engage more deeply with the artworks by facilitating direct dialogue with their creators and research teams. Through these conversations, visitors will be able to grasp the conceptual, technical and ethical dimensions underlying each project, turning observation into critical exchange and shared discovery.

Ultimately, this exhibition invites us to reflect on how we inhabit digital spaces, and on how our actions, data and stories influence the nature of our shared existence. Here, art becomes an exploration, technology becomes an expression and the conference becomes a community of thought, where media cultures evolve into living, collaborative spaces of imagination and knowledge.

The curator would like to thank all the participating artists for their valuable contributions, and would like to extend special thanks to João Martinho Moura, Susana Gaudêncio, Selma Pereira and Adérito Fernandes-Marcos, whose help was crucial to the success of the exhibition.

Pedro Alves da Veiga
CIAC – Centro de Investigação em Artes e Comunicação,
Universidade Aberta

PREFÁCIO

“Media Arts em Expansão: Ecologias, Territórios e Comunidades”

A edição de 2025 da ARTECH decorre num momento em que a produção artística mediada por tecnologia se confronta, simultaneamente, com acelerações técnicas sem precedentes e com tensões epistemológicas profundas. A convergência entre sistemas de Inteligência Artificial, ecologias imersivas, infraestruturas de dados, práticas comunitárias e dinâmicas territoriais convoca hoje as Media Arts a redefinirem não apenas os seus métodos, mas também o seu papel na construção de conhecimento, na mediação social e na crítica cultural.

O tema desta edição da Conferência, “Media Art Cultures, Communities & Territories”, procura, precisamente, convocar para discussão esta condição expandida das Media Arts, que deixaram de constituir um domínio estritamente artístico ou de celebração tecnológica para se assumirem como laboratórios de investigação em contextos onde se entrecruzam dinâmicas sociais e tecnológicas, ecologias de participação pública, modos alternativos de produção de saber e dispositivos estético-políticos com impacto territorial e vocação ativista. As contribuições reunidas neste “Livro de Resumos” evidenciam esta pluralidade e reafirmam a urgência de uma abordagem crítica, situada e interdisciplinar.

A envolvimento do Mestrado em Media Arts na organização da Conferência, através da participação ativa de docentes e estudantes, convida também à reflexão sobre os desafios que se colocam hoje ao ensino pós-graduado. Este nível de educação académica não se deve limitar à mera atualização tecnológica, mas antes centrar-se na capacidade de formar investigadores e criadores aptos a operar criticamente em ambientes digitais complexos, onde se articulam fatores sociais, culturais e tecnológicos, promovendo uma ecologia integrada de saberes. Esta reconfiguração não é apenas pedagógica, é estrutural, definindo novas trajetórias profissionais e exigindo currículos flexíveis, interdisciplinares e assentes em práticas de investigação-criação.

As obras e artigos incluídos nesta edição, distribuídos em 18 sessões temáticas e uma exibição artística, com suporte de uma plataforma digital onde convergem a prática artística e a investigação científica, constituem um observatório privilegiado da produção contemporânea em Media Arts. Denotam, desde logo, o lugar central que a Inteligência Artificial (IA) vem assumindo, não como mera tendência tecnológica, mas como agente estético e epistémico que

problematiza categorias fundamentais da cultura visual. As propostas aqui apresentadas reconfiguram a própria noção de linguagem e de representação, interrogam a materialidade oculta dos sistemas algorítmicos, a autoria e a originalidade, o arquivo e a memória, o gesto, o corpo e a aura, bem como as questões da sustentabilidade. A Conferência demonstra, assim, que a relação entre IA e Media Arts não é de mera adoção instrumental, mas de negociação crítica contínua, exigindo uma prática informada, responsável e conscientemente situada nas tensões éticas do presente. Neste quadro, as Media Arts podem atuar como infraestrutura sociocultural que interroga desigualdades, promove a participação cidadã e articula essas dimensões em práticas artísticas concretas.

A organização de um evento desta natureza é, inevitavelmente, uma empreitada coletiva, de longo curso. Impõe-se, por isso, uma palavra de sincera gratidão aos membros da Comissão Científica e Artística Internacional e aos seus integrantes, pelo trabalho criterioso e fundamental no processo de revisão. Aos autores, pelas suas valiosas contribuições teóricas e artísticas. À equipa de Secretariado, que se constituiu como interlocutora essencial na gestão dos diferentes dossiês da conferência. Aos docentes e alunos do Mestrado em Media Arts da Universidade do Minho pelo seu empenho, disponibilidade e exemplar espírito de colaboração no trabalho voluntário. Ao Centro de Estudos de Comunicação e Sociedade, pelo acolhimento institucional, e aos parceiros locais, gnration e Braga - UNESCO Creative City of Media Arts, pelo apoio continuado. Ainda ao Centro de Investigação em Artes e Comunicação da Universidade do Algarve, à Escola Doutoral e à Faculdade de Artes e Humanidades da Universidade de São José em Macau, por nos terem emprestado a sua experiência na organização do evento. Um agradecimento especial, ainda, à Artech-International, pela confiança depositada na nossa capacidade de levar a bom porto a organização desta 12ª Conferência.

A todos, o nosso bem-haja!

Alberto Sá
General Chair, ARTECH 2025
Universidade do Minho / CECS

PREFACE

“Expanded Media Arts: Ecologies, Territories and Communities”

The 2025 edition of ARTECH takes place at a moment in which technology-mediated artistic production is confronted, simultaneously, with unprecedented technical acceleration and profound epistemological tensions. The convergence of Artificial Intelligence (AI) systems, immersive ecologies, data infrastructures, community practices and territorial dynamics calls upon Media Arts today to redefine not only their methods, but also their role in knowledge production, social mediation and cultural critique.

The theme of this year’s conference, “Media Art Cultures, Communities & Territories”, seeks precisely to bring into discussion this expanded condition of Media Arts, which have ceased to constitute a strictly artistic or technologically celebratory domain and have instead assumed the role of research laboratories operating in contexts where social and technological dynamics intersect, ecologies of public participation are cultivated, alternative modes of knowledge production are explored, and aesthetic-political dispositifs emerge with territorial impact and an artist vocation. The contributions brought together in this “Book of Abstracts” bear witness to this plurality and reaffirm the urgency of critical, situated and interdisciplinary approaches.

The involvement of the Master’s Programme in Media Arts in the organisation of the Conference, through the active participation of both academic staff and students, also invites reflection on the challenges that currently confront postgraduate education. This level of academic training should not be reduced to the mere updating of technological skills, but rather focus on the capacity to form researchers and creators who are able to operate critically within complex digital environments, where social, cultural and technological factors intersect, thereby fostering an integrated ecology of knowledges. This reconfiguration is not only pedagogical; it is structural, defining new professional trajectories and demanding flexible, interdisciplinary curricula grounded in research-creation practices.

The artworks and papers included in this edition, distributed across eighteen thematic sessions and an artistic exhibition supported by a digital platform in which artistic practice and scientific research converge, constitute a privileged observatory of contemporary production in Media Arts. They highlight, from the outset, the central role that Artificial Intelligence has come to play, not as a mere technological trend but as an aesthetic and epistemic agent that

problematizes fundamental categories of visual culture. The works presented here reconfigure the very notion of language and representation, interrogate the hidden materiality of algorithmic systems, question authorship and originality, archival and memorial regimes, gesture, body and aura, as well as issues of sustainability. The conference thus demonstrates that the relationship between AI and Media Arts is not one of simple instrumental adoption, but of ongoing critical negotiation, requiring informed and responsible practice that is consciously situated within the ethical tensions of the present. Within this framework, Media Arts may operate as a socio-cultural infrastructure that interrogates inequalities, fosters citizen participation and translates these dimensions into concrete artistic practices.

The organisation of an event of this nature is, inevitably, a long-term collective endeavour. It is therefore fitting to express our sincere gratitude to the members of the International Scientific and Artistic Committee, for their careful and indispensable work in the review process; to the authors, for their valuable theoretical and artistic contributions; to the Conference Secretariat, which has served as an essential interlocutor in managing the various strands of the event; to the academic staff and students of the Master’s Programme in Media Arts at the University of Minho, for their commitment, availability and exemplary spirit of collaboration in their voluntary work; to the Communication and Society Research Centre (CECS), for its institutional support; and to our local partners, gnration and Braga - UNESCO Creative City of Media Arts, for their continued support. Our thanks are likewise due to the Research Centre in Arts and Communication at the University of the Algarve, the Doctoral School and the Faculty of Arts and Humanities of the University of Saint Joseph in Macao, for generously sharing their experience in conference organisation. A special word of thanks is extended to Artech-International, for the confidence placed in our capacity to successfully host this 12th edition of the conference.

To all, our deepest thanks.

Alberto Sá
General Chair, ARTECH 2025
University of Minho / CECS

PREFACE

International Scientific and Art Committee

We are delighted to welcome you to ARTECH 2025, the 12th International Conference on Digital and Interactive Arts, hosted by the Communication and Society Research Centre (CECS) at the University of Minho, in Braga, Portugal. For over 20 years, ARTECH has brought together artists, researchers, and practitioners who work at the intersection of art, science, and technology. The 2025 edition continues this commitment, opening space for imagination, dialogue, and thoughtful reflection on our shared digital lives.

We live in a time shaped by algorithms, networks, and vast infrastructures. Art helps us slow down and examine closely how technology influences our experiences, memories, and futures. ARTECH 2025 invites you to reevaluate the ethical, aesthetic, and ecological dimensions of the digital condition and to explore how creative practice responds to the complexities of contemporary media environments.

This year, we're proud to have received submissions from 34 countries, a sign of how our community resonates globally and embodies the inclusiveness of the ARTECH community. Our theme, "Media Art Cultures, Communities & Territories," invites us to consider how creative work and practices engage with the ecologies of the digital age. It brings forward notions of belonging and participation, and situated knowledge. Media art operates both as a language and as a laboratory, and therefore proposing ways to shape and share identity, remember and archive experience, and imagine possible futures across environments where the physical meets the virtual and the material meets the computational.

ARTECH 2025 welcomes a wide range of approaches and methods emerging from the convergence of art, science, and technology. Topics include, among others, artificial

intelligence and authorship, sustainable and bioremediative practices, interactive and immersive environments, data visualization and parametric design, creative coding and generative aesthetics, ecological activism, and the pedagogical dimensions of STEAM education.

A signature moment in this year's program is the Virtual Exhibition of Digital Artworks, presenting around thirty projects. While similar initiatives have featured in past editions of Artefacto, this iteration marks its place within ARTECH. The exhibition highlights the various contemporary media art through experimentation and play. Exhibition details can be found online on the ARTECH INTERNATIONAL website.

More than a conference, ARTECH 2025 is a living ecosystem of ideas and encounters. It invites us to consider the role of media art in facing urgent planetary challenges and to imagine digital culture as a shared commons, open, collaborative, and transformative.

We are deeply grateful to everyone who makes this possible, to the authors and artists who enrich the program, to the scientific and artistic committees for their thoughtful contributions, and to the organizing team at CECS for their thoughtful contributions and dedication. Above all, we thank the participants whose curiosity and creative spirit keep the vitality of the ARTECH community vibrant.

International Scientific and Art Committee

**Susana Gaudêncio, Lab2PT, EAAD, Universidade do Minho
Filipa Martins de Abreu, University of Saint Joseph in Macau (MO)**

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Institutions:

University of Minho / CECS (Centro de Estudos de Comunicação e Sociedade)

The Artech-International Association

Honorary Chair

Adérito Fernandes-Marcos, University of Saint Joseph in Macau (MO) / Artech-International

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Madalena Oliveira, University of Minho / CECS (General Co-chairman)

Daniel Brandão, Universidade do Minho / CECS (PT) (Local Organisation Chairman)

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Filipa Martins, University of Saint Joseph in Macau (MO) (Vice-President)

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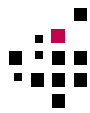
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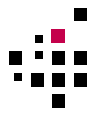
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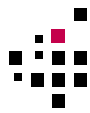
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ARTECH 2025

BRAGA - PORTUGAL

**RESUMOS
ABSTRACTS**

26 NOVEMBRO

ARTISTIC EXHIBITION

MODERATOR: Vítor J. Sá, Polytechnic University of Porto (PT)

SOCIAL RAFT - System Design and Conceptual Framework of a VR-Based Artwork Exploring the Experience of Social Isolation

Paulo Veloso Gomes, João Donga, Vítor Sá, Henrique Curado, António Marques, Gonçalo Oliveira, Sofia Sá

- 1 LabRP-CIR, Politécnico do Porto / pvg@ess.ipp.pt
- 2 LabRP/CIR, ESMAD, Polytechnic of Porto, Porto, Portugal / jpd@esmad.ipp.pt
- 3 LabRP/CIR, ESS, Centro ALGORITMI, Polytechnic of Porto, Porto, Portugal / vjs@ess.ipp.pt
- 4 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / hct@ess.ipp.pt
- 5 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / ajmarques@ess.ipp.pt
- 6 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / gfmo@ess.ipp.pt
- 7 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / 4180105@esmae.ipp.pt

This paper presents the conceptual framework and structure of Social Raft, an immersive artistic installation designed to promote empathy and critical reflection on social exclusion. Set within a symbolic Virtual Reality environment, a drifting raft surrounded by an infinite ocean – participants experience a fragmented narrative that represents seven vulnerable groups. The installation combines dynamic visual and auditory elements, real-life testimonies, and reactive environmental changes to evoke emotional and sensory

engagement. Developed in Unity with custom-modeled assets, it also includes a physical component, featuring an unstable raft, real-time projection, and a digital wall where visitors can leave reflections or personal commitments. Rather than offering a conclusive ending, the raft remains adrift, leaving participants with lingering voices and encouraging ethical awareness and civic responsibility beyond the virtual space.

Playing with Joy

Eduardo da Silva Brito

CECS - Universidade do Minho / pg12188@alunos.uminho.pt

For this artwork submission, we have created a diptych of conceptually connected pieces that explore the search for the joy of play, discovery, and learning in adulthood. Alongside this positive view of childlike wonder, we present a counterpoint: the gritty reality of adulthood. The installation invites the audience to confront the unsettling disquiet that arises when, as adults, we engage in game-like activities

instead of focusing on more “productive” uses of time. Through the dissonance presented in the work, we aim to evoke introspection and encourage viewers to question whether they should feel any guilt or discomfort for trying to reconnect with their inner child and embrace joyful exploration as adults.

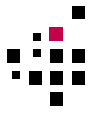
Liquid Empathy - intimate dialogue between human and machine that translates into sounds and cymatics

Joana Isabel Rodrigues dos Santos Perfeito

Escola Superior de Artes Aplicadas - IPCB / jperfeito@ipcbcampus.pt

“Empatia – Forma de identificação intelectual ou afetiva de um sujeito com uma pessoa, ideia ou uma coisa.”
Empatia Líquida é uma experiência imersiva em que humano e máquina interagem entre si, interferindo com os seus estados emocionais. Pretende realçar a cadeia causa-efeito na relação entre indivíduos, e nas consequências da mesma. Através da interação com o sistema (Lilyth), o utilizador influencia os “estados de espírito” do sistema artificial, resultando numa interferência do seu próprio estado emocional. Este projeto surge do interesse em áreas como a interação e a psicologia, assim no campo da acústica e

psicoacústica.
O objetivo desta instalação é estabelecer uma correspondência sonora e visual a estados emocionais e provém do interesse pessoal do estudo das emoções e do impacto da música / som nas mesmas. Cada gesto desencadeia um ciclo de ressonância – um fluxo contínuo onde o sistema responde, sente e devolve, criando-se um ciclo contínuo de troca sensorial. Neste espaço, a empatia torna-se líquida: fluida e visível. “Empatia Líquida” gera ressonâncias em que humano e máquina se encontram numa experiência de empatia partilhada. “Empathy – A form of



intellectual or affective identification between a subject and a person, idea, or thing.”

Liquid Empathy is an immersive experience in which humans and machines interact with each other, interfering in their emotional states. It aims to highlight the cause-and-effect chain in the relationship between individuals and its consequences. Through interaction with the system (Lilyth), the user influences the “states of mind” of the artificial system, resulting in an interference of their own emotional state. This project arises from an interest in areas such as interaction and psychology, as well as in the fields of

acoustics and psychoacoustics.

The goal of this installation is to establish a sonic and visual correspondence to emotional states and stems from a personal interest in the study of emotions and the impact of music/sound on them. Each gesture triggers a cycle of resonance—a continuous flow where the system responds, feels, and reciprocates, creating a continuous cycle of sensory exchange. In this space, empathy becomes liquid: fluid and visible. “Liquid Empathy” generates resonances in which human and machine meet in an experience of shared empathy.

Ágora Fluida - Interactive installation that invites collaboration

Joana Isabel Rodrigues dos Santos Perfeito

Escola Superior de Artes Aplicadas - IPCB / jperfeito@ipcbcampus.pt

Ágora Fluida é uma instalação multimédia interativa que convida os participantes a entrarem num espaço de encontro e criação coletiva. Em superfícies com água sensível ao toque, cada gesto desencadeia paisagens sonoras e pulsações de luz, que viajam e convergem no núcleo da instalação

Neste espaço, as ações individuais tornam-se vozes, e as vozes, em conjunto, formam uma narrativa com a água como elemento fluido e simbólico de ligação. Ágora Fluida propõe um território democrático onde colaboração, presença e escuta se fundem num organismo vivo de som e luz e cada ação ecoa como voz coletiva, criando uma ágora de fluxos e encontros. Ágora Fluida is an interactive multimedia

installation that invites participants to enter a space of encounter and collective creation. On touch-sensitive water surfaces, each gesture triggers soundscapes and pulsations of light, which travel and converge at the core of the installation.

In this space, individual actions become voices, and these voices, together, form a narrative with water as a fluid and symbolic element of connection. Ágora Fluida proposes a democratic territory where collaboration, presence, and listening merge into a living organism of sound and light, and each action echoes as a collective voice, creating an agora of flows and encounters.

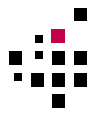
Pathological Landscapes: An Artistic Journey into AI's Compassionate Language and Imagery in Healthcare

Ziyao Lin

Loughborough University / Z.Lin6@lboro.ac.uk

“Pathological Landscapes” is an artistic project that explores empathy and emotional support in the context of medical care. The project comprises video and installation elements. The installation features imagery that visualizes diagnostic report data with the assistance of generative AI. The video component presents a dialogue between the artist and ChatGPT, showcasing the language model's capabilities in analyzing medical conditions and providing comfort and guidance to patients. Time, AI, and humans intertwine as

significant elements within the narrative. The work navigates between rationality and irrationality, prompting reflections on how the relationship between humans and AI redefines interpersonal connections. This project seeks to examine the potential and limitations of general-purpose AI as an individual assistant in the medical field, while envisioning a future where more human-centered care is seamlessly integrated into medical processes.



Dancing Landscapes, Volcanic Breath

Simona Žemaitytė

Lithuanian Academy of Music and Theatre / s.zemaityte@gmail.com

As an artistic researcher, I would like to present a digital screen work focusing on the supervolcano in Southern Italy known as the Phlegraean Fields (Campi Flegrei). The studies of this volcano have been in the center of my postdoctoral research for the last two years. A volcanic caldera of 120 square kilometers is characterized by an ongoing bradyseismic crisis, experiences slow ground uplift and subsidence accompanied by seismic activity. It is also one of the most densely populated areas near the city of Naples, hosting over half a million people. The caldera features several notable craters, including Lake Averno- believed by the Romans to be the entrance to the Underworld (Hades), active volcano Solfatara, naturalistic oasis of Astroni, and

many others. Phlegraean Fields caldera is rich not only in natural wonders - thermal waters, craters, natural oasis, and also legends and historical heritage. Here lies a sunken city of Baia, the Amphitheater of Flavio, and the market columns falsely called Tempio di Serapide, which are natural "measures" of bradyseism. Science, history, architecture, and geology merge here. The video explores the landscape as a body and the body as a landscape through choreography and movement of the camera. Through dialogue with residents of Pozzuoli and Naples, as well as volcanology scientists, this work aims to deepen the understanding of what it means to live intimately with the challenges posed by bradyseism.

Small Laboratory to Recreate Humans. Interactive Installation on Affective Archives and Algorithmic Fictions

Líria Varne

CECS - Universidade do Minho / liriav.art@gmail.com

This article presents part of the development process of Small Laboratory to Recreate Humans, a total installation with interactive elements that incorporates radio frequency transmission, video mapping, object mapping, and archiving. The work explores the intersection of affective memory, history, and identity, examining how Artificial Intelligence—as an archive and manager of information—can influence the perception, transmission, and construction of individual and collective memory. Inspired by the concept of a Cabinet of Curiosities, the installation integrates objects,

projections, and sounds to evoke shared memories among viewers, creating a space for reflection on belonging, human connection, and imagined realities. Drawing from real-life stories, memories invented by the artist, and narratives generated by Artificial Intelligence, the project questions the boundaries between what is remembered, recreated, and digitally fabricated. Through a poetic and sensorial approach, the work weaves narratives that traverse both analog and digital realms, opening a dialogue between nostalgia and technological innovation.

The artwork's title: Hypnagogic Hallucination Machinery

Berk Yagli

University of the Arts London / byagli9@gmail.com

Hypnagogic Hallucination Machinery is about the 21st-century condition. Living in a hyper-consumer-based world, where everyone happily becomes a commodity to take part in society, the concepts of individuality, freedom, privacy, and humanity once again become crucial to be questioned

and discussed. The sea of endless escapism, simultaneously fractured and monotonous people and ideas, we are now a part of the systematic hallucination machine more than ever. This piece aims to reflect these topics in an auditory way.

A Needle in a Haystack

Varvara Guljajeva, Mar Canet Sola

1 VCUArts Qatar, Academy Media Arts Cologne / varvarag@gmail.com

2 Tallinn University / mar.canet@tlu.ee

Needle in a Haystack is a robotic art installation that explores the intersection of robotics, artificial intelligence, big data, and environmental sustainability. Drawing inspiration from

the idiom, the project features a robot tasked with finding a hidden needle in a haystack—a metaphor for the challenges AI systems face in locating critical information within

vast datasets. This work questions the myth of AI as an omnipotent “black box” and highlights its reliance on human labour and resource-intensive computation.

The installation engages with the limitations of large language models (LLMs) in handling extensive contexts, referencing contemporary research that exposes their struggles with big data. It also delves into the increasing

computational power and energy demands required to train these systems, juxtaposed against the urgent realities of the climate crisis. By drawing attention to modern AI’s labour, energy, and environmental costs, Needle in a Haystack prompts viewers to reflect on the ethical and ecological implications of technological advancement in the deep learning era.

UAKTI CORPOS SONOROS

Ailton Wenceslau, Sidney Tamai

1 Grupo de pesquisa Artes em Tecnologias Emergentes - Unesp / wenc.ailton@gmail.com

2 Unesp - Universidade Estadual Paulista “Júlio de Mesquita Filho” / sidney.tamai@unesp.br

O dispositivo técnico executado, nomeado de UAKTI CORPOS SONOROS, é produto da pesquisa e projeto de uma instalação artística que opera reproduzindo notas musicais a partir do movimento dos interatores. O processamento realiza-se em tempo real por um computador que atua tratando dados obtidos com sensores de distância distribuídos no espaço da

obra, tocando diferentes timbres de acordo com as leituras referentes ao posicionamento do participante. O propósito da instalação interativa foi incitar, através de estímulos sonoros, a consciência corporal e as relações de continuidades experiências-reflexivas entre espaço, tempo, sujeito e objeto.

What the Salt Crystals Knew

Alejandro Borsani

Rhode Island School of Design / aborsani@risd.edu

In a time when the climate crisis speeds up into full gear the transition to “green energy” is already a failed program. A marker of this failure is the terraforming of salt flats - often portrayed as “empty land or deserts” - into grids of pools for lithium extraction. ‘What the Salt Crystals Knew’ is a video-animation shot at the Mascasin salt flats in San Juan, Argentina. This land has been recently acquired by an international conglomerate with plans for lithium mining. Deserts have historically been portrayed as arid, inhospitable,

and uninhabitable. A desolation that is then used to justify extractive projects by exploitative authorities that are constantly searching for and in need of so-called ‘empty’ places to be ‘filled’ through occupation, extraction, mining, production, and accumulation. ‘What the Salt Crystals Knew’ is a poetic questioning of what is routinely targeted as the space’s alleged emptiness; its constructed nothingness. An attempt to counter the colonial narratives that continue to insist that these ecosystems are inhospitable sites of loss.

[Des]montagem

Maria Cristina Cavalcanti

Universidade do Algarve / mccaavalcanti@ualg.pt

This work presents the multimedia installation [Des] montagem, which articulates memory, history, and aesthetics through the appropriation and recontextualisation of archival materials related to repression during the Brazilian civil-military dictatorship (1964–1985). Rooted in concepts of memory and montage, the installation challenges the unequal formation of memory and the influence of dominant narratives in official history, while aiming to validate silenced voices. Drawing from the works of Walter Benjamin and

Aby Warburg, [Des]montagem utilizes visual, auditory, and interactive components to establish a realm for confronting and contemplating the past and the present. The installation also includes a virtual version that broadens public access, enabling new forms of engagement. The project highlights the potential of digital art to politicise memory and foster critical thinking, showing that we are active agents in the construction of our own history.

Desabafo

Lorena Ferreira

CITAR - Research Center for Science and Technology of the Arts / lfalves@ucp.pt

The sonic surveillance device Desabafo was developed to reclaim a sense of privacy that is no longer attainable in our interactions with contemporary communication technologies. Engagement with the device evokes an intimate gesture, offering the individual a protected space where privacy is preserved and where one may speak freely or vent. The technology incorporated into the device is designed to create a binaural microphone using affordable components. The circuit, handmade by the artist, incorporates an aesthetic of the gambiarra, combining reused electronic materials, acrylic and iron. This apparatus functions as a technological assistant for privacy and intimacy, where the captured sounds possess a beginning and an end devoid of surveillance.

27 NOVEMBRO 2025

SESSION 1: GENERATIVE VISIONS: AI, REPRESENTATION, AND VISUAL SYSTEMS

MODERATOR: Silvia Laurentiz, University of São Paulo

Detailed Abstract Images from Automated Prompts

Adon Phillips, David Mould

1 Carleton University / aphil037@uottawa.ca
2 Carleton University / mould@scs.carleton.ca

Pretrained diffusion models controlled by text prompts offer a controllable, accessible process for creating images. However, text prompts are easier to create, and more straightforwardly guide the model to an output matching the user's intention, when the desired image content is representational, that is, depicting a well-defined, recognizable subject and setting. Abstract images are difficult to describe and the user may lack a clear idea of the contents of the abstract image in the first place. We propose

a mechanism, inspired by "Mad Libs", for automatically constructing prompts to elicit intricate abstract images. We present sample "Mad Libs" templates and give advice about how to populate the dictionaries that will be used for template completion. We test our prompts on three separate diffusion models and show several examples of images thus produced; the results have a degree of detail and coherence that naive prompts cannot match.

Representational Model Guided by AI Algorithmic Logic Procedures

Silvia Laurentiz

Universidade de São Paulo / laurentz@usp.br

This article presents the current outcomes of the research project Conformed Thought and Art in the Context of Algorithmic Logic and AI Procedures (FAPESP No. 2023/05500-3). The investigation was prompted by the generation of an unexpected image by an artificial intelligence system—a phenomenon often referred to as a "machine hallucination." This event serves as a starting point for analyzing the logical structures embedded in the conceptual and perceptual models that inform creative processes in computational contexts. The study also examines how artistic practices contribute to critical reflections on what we define as Conformed Thought, a

concept developed in earlier publications (Xxxxxxx, 2015, 2017, 2019, 2021). The project proposes a representational model oriented by information processing that interrogates the epistemological and operational dimensions of computational algorithms, with particular attention to artificial intelligence. A central concern raised is that the indiscriminate use of AI-generated content in training datasets may lead to irreversible degradation of cultural production. The current stage of the research involves the development of an artwork based on the technical and aesthetic studies conducted so far.

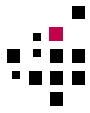
Abstract Language Model – Exploring the human machine relation by using artificial neural networks as a tool for creating audio-visual artworks

Andreas Lutz

Independent Researcher, Artist / al@andreaslutz.com

For "Abstract Language Model", an artificial neural network was trained on the entire character sets represented in the Unicode Standard – over 65.000 characters contained within the Basic Multilingual Plane. The resulting complex data models contain the translation of all available human sign systems as equally representable, machine-created states including latent points, where the most accurate representation of the characters is achieved. Crucially, interpolation between these latent points becomes possible, enabling the generation of an infinite spectrum of

intermediary forms between previously discrete characters, which can be understood as the emergence of a purely machine created semiotic system. The revealing of such „obscured variants“ between the known characters points toward the conceptual possibility of a transitionless, non-binary universal language, which could be expressed by a self-conscious machine comprehended reciprocally by its human counterpart. The processes described above are visualized in the 4-channel video installation „Abstract Language Model (Sync)“. Consisting of four synchronized



visualizations with seven different states (Extraction, Analysis, Rearrange, Process, Transformation, Learning and Language), the audio-visual sequence is based on a real-time interpolation through the trained neural models, illustrating the transformation into a trans-human / trans-machine language. „Abstract Language Model (Live)“ serves as the performative counterpart to the installation, presented as a

45 minute, single-channel audio-visual performance featuring real-time generated visuals and stereo sound. This paper details the artistic research and conceptual framework of “Abstract Language Model”, the technical development of the artificial neural network and the audio-visual implementation and presentation concluding with a critical discussion and evaluation of the resulting work.

Lisbon MIL City within the A.I. Age Interpreting Media Arts and Urban Heritage for Sociological Tourism, and their Dissemination via a Digital Marketing Campaign

Pedro de Andrade

Permanent Researcher at CITAR, UCP / pjoandrade@gmail.com

Objectives. The present project aims to position Lisbon as a leading destination for sociologically-informed tourism, through the Media and Information Literacy (MIL) Cities framework. In particular, Lisbon MIL City focuses on enhancing urban heritage, media arts and cultural tourism literacies at Lisbon, by addressing cultural barriers such as technological illiteracy, within A.I. contemporaneity. **Method.** The project's team is constituted with 4 Task Forces that will undertake both sociological case studies and MIL Cities metrics on

diverse Lisbon areas and stakeholders. **Dissemination:** Such project content will be diffused via a digital marketing campaign, which targets diverse audiences, including citizens, researchers, students, culturally-curious tourists and migrants, among other stakeholders. **Results and impact.** In sum, the above-mentioned initiative intends to transform conventional tourism into a social medium for deeper cultural understanding and sustainable practices, ultimately establishing Lisbon as a local and global model for Sociological Tourism.

The ancestors of AI in the era of the floating world: images, atlases, archives of critical thinking (contributions)

Maria de Fátima Lambert

inED / mariafatimalambert.ese@gmail.com

Aesthetic thought manifests itself in the multiplicity and overlapping of models articulated with current practices available to researchers and students on digital platforms. The growing awareness that theoretical knowledge must be mastered, linked to artistic creations and practices, implies the configuration of a broad network, both chronological and georeferenced: images of a floating world. As my main hypothesis, I consider that the conceptual and aesthetic models of image organization/interpretation developed in Albert Kahn's Grand Archive de la Planetète, A. Warburg's Atlas Mnemosyne, and A. Malraux's Musée Imaginaire position themselves as ancestors of the globalized thought present on digital platforms. On the other hand, I understand that Walter Benjamin's questions when discussing Art in the Age of Technical Reproducibility anticipate and critically inform the challenges of visual culture and iconography in the Age of AI-generated images. In this context, by inducing, revisiting, renewing, and stimulating these historical paradigms, we could enable a critical and reflective understanding of the iconographic overflow and epistemological instability characteristic of images of the floating world [Y. Ishiguro] today. Drawing on the concepts/images of Cartographies and Archives, we aesthetically examine the potential of iconographic thought in the face of the immeasurable and indomitable generation of images by AI. By revisiting historical paradigms, the urgency arose to deconstruct the images

of a disappearing world (Khan); to conceptually reorganize the historiographical systematization of art based on symbolic cultural anthropology and iconology (Warburg); to problematize the (possible) failure of auratic rapture versus the technical reproducibility of photography (Benjamin); and to make explicit the dichotomous polysemy raised by the proliferation of printed images (Malraux). The questions raised by the assumption of digital archives and, more recently, AI are repositioned (both retrospectively and prospectively). The following priority objectives stand out: to recognize the evolution of image archives, from analog (photographic, printed) to digital and AI-generated platforms; to trace the genealogy of visual thought through historical paradigms, focusing on the construction of meaning through the curation, reproduction, and circulation of images; to critically analyze the concept of the floating world as a metaphor for the multiplicity and instability of digital visual culture; to assess the impact of AI on traditional notions of authorship, aura, and originality (à la Benjamin); to deconstruct historical and contemporary visual systems using methodologies inspired by symbolic cultural anthropology, iconology, and archival studies; and to reflect on the aesthetic and anthropological implications of cartographic and archival strategies in the digital age. Over the course of a year, narrative excerpts from the aforementioned authors were collected, as well as a compilation of images referenced and/or created/promoted



by them. This verbal and visual anthology was designed as creative and critical thinking exercises to be mastered in a visual lab and shared/activated with students. As for the chosen methodology, we briefly emphasized Cultural/Symbolic (Visual) Anthropology and Iconographic/Iconological Analysis. This involves the systematic observation and interpretation of the use, transformation, and meaning of images on contemporary digital platforms, aiming to decode symbolic and cultural layers of images across time and media. We followed a four-step process. The 1st step consisted of selecting specific images from the archives and collections of Kahn and Warburg; artistic and historical references from Benjamin and Malraux. In the 2nd step, we developed an online search and selected AI-free PROMPT INTO IMAGE platforms to generate different image results. During the 3rd step, the main question converged on the framing of the prompt, following and applying descriptions designed by me; excerpts from

the aforementioned authors; citations from academics and other authors on the referenced projects (academic/cultural heritage) and their theoretical foundations. The 4th stage consisted of inserting the prompts that generated images: once, twice, until the iconographic result approximated the original image. Some of the results obtained highlight the modeling/measurement (qualitative) of the researcher's interference/manipulation in the evaluation of successive stimuli until the desired/aspired iconographic images were approximated; the repositioning of archival thinking in digital and post-digital contexts, connecting the aforementioned paradigms with contemporary visual culture. The visual AI tests promoted an aesthetic confrontation between affinities and dissimilarities. Finally, the articulation of the world images' logic as metaphor for the ephemeral and hyperconnected aesthetic ecologies for present time.

Aura-Fox Redux. Uma arqueologia da imagem técnica

Camila Manguiera, João Paulo Lima

Fac. Belas Artes Univ. Porto / Inst. de Investigação em Arte, Design e Sociedade - I2ads / camilasoares@fba.up.pt
Fbaup - I2ads / limamil@hotmail.com

Este artigo apresenta e analisa Aura-Fox Redux, instalação que reconfigura um ampliador fotográfico histórico como objeto artístico performativo. A obra investiga as potências operacionais e epistemológicas do aparato técnico por meio de intervenções que tensionam sua materialidade e sua condição como dispositivo analógico em um contexto pós-digital, marcado pela automação dos processos criativos e pela constante atualização de ferramentas e fluxos de produção. A proposta articula conceitos como aura e espanto, mobilizando reflexões de Walter Benjamin, Vilém Flusser e Pedro Miguel Frade, além da abordagem de "desaturize" de Andreas Fickers e Annie van den Oever. Aura-Fox Redux oferece uma experiência sensível orientada não pela funcionalidade do aparelho, mas por uma estética do gesto e da performance, afirmando curiosidade e espanto como vias de acesso a uma arqueologia da imagem técnica. O percurso metodológico integra diferentes abordagens da

arqueologia dos media: a descoberta e a reparação do objeto por meio da experiência direta, que permite compreender sua lógica material e operacional; a contextualização teórica a partir de documentos técnicos e autores da teoria dos media, que problematiza sua condição contemporânea e persistências culturais; e a exploração performativa do ampliador por meio da configuração da instalação e da prototipagem de novos componentes, transformando-o em artefato híbrido que oscila entre caixa teatral, câmara fotográfica, projetor, pinhole, lanterna mágica e laboratório. O trabalho configura-se, assim, como uma investigação baseada na prática artística, que permite desenvolver trabalhos orientados para a mediação enquanto processo, deslocando a ideia de funcionalidade e a centralidade da imagem como produto. Ao mesmo tempo, abre espaço para a reflexão crítica sobre os regimes culturais de produção e percepção das imagens e de suas mediações técnicas.

SESSION 2: IMMERSION AND DIGITAL NARRATIVE: WEB, VIDEO ART, GAMES, AR/VR

MODERATOR: Regilene Sarzi Ribeiro, Faculdade de Arquitetura, Artes e Comunicação - UNESP

Motivação para Aprender em Ambientes Web Imersivos: Um Estudo de caso

Bárbara Cleto

Universidade de Aveiro / barbara.cleto@ua.pt

Este artigo apresenta os resultados de um estudo de caso realizado com alunos 7º ano de escolaridade, que idearam, personalizaram e utilizaram um Ambiente Web Imersivo (AWI) como sala de aula. O estudo pretendeu

compreender o impacto que a participação ativa dos alunos nas diferentes fases teve sobre a motivação para a aprendizagem dos conteúdos curriculares e os da disciplina de inglês. Foram aplicados questionários aos alunos em

três momentos distintos do processo, após a cocriação, após a personalização e após a utilização do AWI. Os resultados demonstram que a maioria dos alunos manifestou uma percepção positiva relativamente à sua participação, valorizando o trabalho em grupo e o processo de cocriação com os colegas. Revelaram ter gostado de ter aulas e de aprender no AWI, manifestando interesse em continuar a utilizá-lo, tanto de aulas de Inglês quer noutras disciplinas. A motivação para aprender inglês manteve-se estável ao longo das três fases, enquanto a motivação para construir e aprender em ambientes web imersos aumentou. Apesar de alguns constrangimentos técnicos mencionados pelos alunos, a percepção global sobre a utilidade do AWI como

recurso pedagógico foi muito positiva. Entre os fatores mais indicados para o aumento da motivação destacam-se o trabalho colaborativo; a possibilidade de aprender com os colegas, num espaço tridimensional, onde podem usar óculos de realidade virtual; a possibilidade de personalizar facilmente o AWI; assim como a participação ativa no processo de cocriação do AWI, onde todos contribuíram para a sua criação. Os dados sugerem que a participação dos alunos no design e posterior utilização do seu AWI pode potenciar aprendizagens mais significativas, reforçando o papel do aluno agente ativo na construção do seu conhecimento.

Olhares Subjetivos: A Videoarte como Espelho da Cultura e da Performance Artística

Pedro Henriques, Pedro Alves da Veiga

1 CIAC-Centro de Inv. em Artes e Comunicação | Univ. Aberta / Univ. Algarve / pedrohenriques1987@gmail.com

2 Universidade Aberta / pedro.veiga@uab.pt

This article proposes the concept of documentary video art through the analysis of the role of subjectivity in videographic works of a documentary nature, as a record of artistic and cultural performances, demonstrating how the authorial perspective can enrich this type of record and broaden its interpretive horizons. Through a theoretical approach and the analysis of three case studies, Consonant Camera by E. V. Aleksandrov, A Love Song for Latasha by Sophia Nahli Allison, and Moon Moth Bed by Virginia L. Montgomery, the study explores

how video art integrates documentary fidelity, poetic narrative, and aesthetic innovation. The concepts of the consonant camera, fragmented visual memories, and natural metaphors illustrate strategies that combine ethics, creativity, and cultural sensitivity. It is argued that video art, by transcending the boundaries between art and documentation, is an essential medium for preserving intangible cultural heritage and constructing narratives that blend critical reflection and aesthetic experience.

Videojogo como Mediação Emocional: uma Instalação Interativa em Media Arts

Emanuele Inacio, Tiago Martins, Alberto Sá

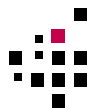
1 CECS / Universidade do Minho / emanuele.inacio1@gmail.com

2 Universidade do Minho / tiagomartins@dsi.uminho.pt

3 CECS / Universidade do Minho / albertosa@ics.uminho.pt

Videogame as Emotional Mediation: an Interactive Installation in Media Arts is configured as a theoretical-practical investigation within the field of media arts, focused on exploring processes of sensory and affective mediation through the articulation of videogame, light, and sound. It starts from the hypothesis that these elements, when integrated into the exhibition space, are capable of creating immersive atmospheres that catalyze emotional states and expand the viewer's perceptual agency. The conceived installation proposes a multidimensional sensory environment, in which visual and sound elements operate as aesthetic components and performative instances that guide the participant's experience. The videogame, as a narrative

and interactive device, is conceived as a mediator of experience, promoting a symbolic relationship between body, space, and action. The methodology assumes an empirical and interactive nature, articulating three main dimensions: theoretical review, technical experimentation, and documentation of the creative process. The bibliographic research focuses on contributions from the phenomenology of perception, emotional design, sensitive interaction, and game feel. The prototyping process will be carried out using digital and electronic tools, with emphasis on the expressive possibilities of chromatic combinations, sound variations, and interaction modes.



Memórias do Futuro - Um Diálogo com o Passado Sustentável

Miguel Carlos Lima, Mirian Nogueira Tavares, Luís Teixeira

1 Universidade Aberta / migcarlima@gmail.com

2 CIAC - Universidade do Algarve / miriantavar@gmail.com

3 Universidade Católica Portugal - CITAR / lteixeira@ucp.pt

O projeto “Memórias do Futuro” propõe uma intervenção artística no Sanatório de Mont’alto (Valongo, Portugal), um espaço de ruína arquitetónica e memória cultural. Utilizando fotografias digitais do local, processadas através de inteligência artificial (IA) generativa, foram criados catorze vídeos curtos que reimaginam o edifício abandonado como um cenário revitalizado por princípios de sustentabilidade ecológica. A figura de um boneco Panda, integrada nas imagens, funciona como um agente narrativo que simboliza o cuidado ambiental. A obra manifesta-se num artefacto interativo para tablet e num filme não interativo, promovendo

uma reflexão sobre o abandono e a reutilização de espaços. Este artigo detalha o enquadramento histórico do sanatório, a metodologia técnico-criativa do projeto, e a experiência da sua exposição in situ. Adicionalmente, desenvolve uma discussão crítica sobre as implicações da práxis artística, analisando o conceito de “aura” na era da reprodução por IA e confrontando a temática ecológica do projeto com a pegada ambiental da própria tecnologia utilizada, estabelecendo um diálogo entre a criação artística e os paradoxos da sustentabilidade digital.

Narrative Portals and Augmented Reality: Activating empathy in creative projects

Ana Raquel Gouveia, Isabel Cristina Carvalho, Paulo Maldonado

1 Universidade Aberta e Universidade de Algarve / 08raquelgouveia@gmail.com

2 CIAC-Uab / isabel.carvalho@uab.pt

3 Universidade de Évora / pjmc@uevora.pt

In an era marked by the increasing fragmentation of human relationships – where mechanisms of social and emotional connection often struggle to adapt to the acceleration of communicational technologies and digital ecosystems – Digital Media Art assumes a role of critical and sensitive mediation. The experimental and research-driven exploration of ways to reconfigure modes of being-with-others through technology fosters intersections between creative practices and other means such as digital narrative and augmented reality, particularly with their immersive and interactive potential oriented toward ethical, social and cultural concerns. These practices propose frameworks for listening, sharing and symbolic co-presence, where

empathy is not conceived as a passive emotion, but as a relational process. This article offers a theoretical reflection on such frameworks, focusing on narrative portals activated through augmented reality, and analyses four contemporary international art projects (2021-2025) - Como Semillas em el Viento, Monumental Perspectives, Las Awichas e Augmented Landscapes of Empathy – which integrate technology and storytelling to cultivate affective and community-based connections. Through comparative analysis, the article seeks to understand how these creative projects are situated within the field of Digital Media Art and how they configure spaces of relation and collective memory.

Unblackboxing como prática artística

Guilherme Maranhão

CECS - Universidade do Minho / refotografia@gmail.com

This article reflects on artistic practices involving obsolete technologies through the lens of the concept of “unblackboxing” proposed by Garnet Hertz. Drawing from theoretical contributions by Vilém Flusser, Albert Borgmann, and Claude Lévi-Strauss, the text explores how dismantling, reassembling, and creatively reusing discarded devices becomes both a critical and poetic gesture.

Rather than approaching technology as an opaque tool for image or sound production, these practices reintroduce experimentation, uncertainty, and material sensitivity into the process. By resisting the logic of technical obsolescence and reclaiming control over machines, artists transform so-called “waste” into fertile ground for imagination and reinvention.

A Media Art como meio de criação híbrida, colaborativa e participativa

Carlos Correia

CECS - Universidade do Minho / alvilcorreia@gmail.com

A proposta que aqui se apresenta tem como base a performance Esta Concha Soa a Vozes, uma criação coletiva desenvolvida pelo coletivo vocal comunitário Outra Voz, o performer Raúl Maia e um núcleo artístico multidisciplinar. Este projeto parte de uma proposta dramatúrgica sobre distopia evolutiva do Homo Digitalis para explorar criticamente os paradoxos do universo digital, instrumentalizando-o simultaneamente como objeto de reflexão e como pretexto de colaboração e criação coletiva. Através da interseção entre música eletrónica, prática vocal comunitária, legado

oral e performance num resultado performático de som e movimento, propõe-se uma exploração sensorial e crítica das dinâmicas sociais contemporâneas mediadas pela tecnologia. O trabalho inscreve-se nos domínios da arte digital e instalações artísticas, arte interativa e media artworks e comunidades digitais e é caracterizado por um processo que espelha princípios associados à Teoria do Ator-Rede, no sentido colaborativo do processo e na integração de elementos humanos e não-humanos, corpo e técnica, som e escuta, indivíduo e comunidade, contemporaneidade e memória.

SESSION 3: AI, AUTHORSHIP, HISTORIES

MODERATOR: Susana Gaudêncio, University of Minho / EAAD

Media Art and AI. Collaborative projects and moving images

Regilene A. Sarzi Ribeiro

Faculdade de Arquitetura, Artes e Comunicação - UNESP / regilene.sarzi@unesp.br

The article is the result of research that investigated collaborative artistic projects and video artworks, or strictly speaking, movement-images, which discuss issues of gender, race and ethnicity, ecology and the emergence of the environmental crisis associated with the impact of AI tools on ethics and aesthetics. The study arose motivated by the following questions: how can AI tools be applied to the debate on ethics in collaborative practices on racism and gender equity? Can the use of AI tools by artists provoke the emergence of audiovisualities that collaborate with the

aesthetic and ethical debate proposed by such collaborative practices? To answer such problems, the study mapped and analyzed a set of collaborative artistic practices and moving images related to the use of AI. The results indicate that the artists create their works as aesthetic devices aiming to amplify the experience with art to shift it to the field of ethics and articulate technology to social issues, to the extent that they transform the works into spaces of collaborative, participatory and collective action, with emphasis on an ethical-aesthetic debate about image, art and AI.

Aesthetics on Autopilot: AI's Role in the Works of Abrantes and Manovich

Catarina Lira Pereira, Domingos Loureiro, Diana Costa

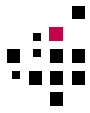
1 i2ADS / cp14@edu.ulisboa.pt

2 i2ADS / dloureiro@fba.up.pt

3 CIEBA / d.costa@belasartes.ulisboa.pt

This paper explores the integration of Artificial Intelligence (AI) in contemporary artistic practice through the works of Gabriel Abrantes and Lev Manovich, whose recent exhibitions in Portugal foreground the tensions between human creativity and technological innovation. The research addresses critical questions, such as the extent to which AI can be seen as a collaborator in artistic creation and whether the proliferation of AI enhances or undermines the authenticity of contemporary art. The analysis reveals the divergent methodologies of both artists. Abrantes employs AI as a controlled tool, emphasizing human intentionality and artistic intervention at every stage, while Manovich adopts a more experimental approach, allowing AI greater autonomy, with algorithmic flaws becoming central aesthetic components. Additionally, the AI

itself applies a "politically correct" filter, softening potentially disruptive elements, which results in a more calculated and predictable aesthetic. This highlights a process of "aesthetic pasteurization" that contrasts with Abrantes' more direct integration of AI contributions into traditional painting. The paper also focuses on implications for authorship, authenticity, and artistic value. The democratization of AI tools has opened up new creative possibilities but has also introduced significant challenges, such as aesthetic homogenization, the dilution of artistic authorship, and a potential shift in the perception of artistic merit. This "mega-democratization" reshapes the dynamics of art creation, making it accessible to amateurs and professionals alike, but raises questions about the value and uniqueness traditionally attributed to art.



Toward Diffused Multiplicity: Palimpsestic Characteristics in AI Art

Youngjun Choi, Jinjoon Lee

1 Graduate School of Culture Technology, Kaist / youngjun.choi@kaist.ac.kr

2 KAIST, Graduate School of Culture Technology / jinjoon.lee@kaist.ac.kr

This paper examines diffused multiplicity as an emergent characteristic of AI art, analyzing how multiple temporal, cultural, and aesthetic layers are embedded throughout these artistic practices. Unlike traditional artistic production that maintains coherent aesthetic identities, AI artworks are palimpsestic objects that allow multiple potential interpretations simultaneously. Through analysis of neural networks as synthetic media and related artworks, we demonstrate how these palimpsestic structures challenge

conventional artistic identity categories, enable access to cultural archives beyond individual cognitive capacity, and require new aesthetic frameworks that accommodate continuous potential becoming. Rather than representing mere technological advancement, AI art constitutes novel cultural production that preserves complexity through computational processes, offering genuinely innovative aesthetic possibilities while remaining embedded within existing cultural formations.

Remember to [not] be Forgotten: Women Artists and Technological Memory Erasure

Conceição Luís

ITI / a2023148644@campus.fcsh.unl.pt

Gender and memory intersect deeply in cultural practices. Notwithstanding, women's visibility in the arts, across literature, painting, music, and more recently, media arts, remains persistently marginalised despite digital environments presumably designed to preserve and represent. Drawing from feminist memory studies alongside broader memory research and feminist theories of technology, this paper analyses how computational forgetting mechanisms risk reinforcing structures of gendered marginalization. Forgetting within intelligent systems manifests both by

design and accident: logic-based frameworks like Answer Set Programming (ASP) implement forgetting to manage knowledge bases efficiently, while neural networks experience catastrophic forgetting during sequential learning. Although these processes are computational, we argue they carry significant social and epistemological consequences. When intelligent systems forget, they may risk repeating and deepening historical patterns of exclusion, raising urgent questions about whose memory is maintained, and whose is erased, in an age of algorithmic memory systems.

Core Reflex II: The Creative Process of a Self- Portrait in a Luminous Landscape

Bruno Mendes da Silva, Susana Costa

1 UAlg/CIAC / bsilva@ualg.pt

2 UAlg/CIAC / srsilva@ualg.pt

This short paper departs from the legacy of video art, challenging the conventions of representation and perception. It highlights the temporal and spatial features of video, which enable to deconstruct and reconstruct moving images, blurring boundaries between physical and virtual realities. Within this context, the paper focuses on the process of creation of the video artwork Core Reflex

II, filmed at the Santa Maria Lighthouse on Culatra Island (Algarve, Portugal), and explores its poetic interaction with self-representation, identity, and territory. Visual metaphors guide the immersive experience of this video art through technical and aesthetic choices that culminate in a multisensory and symbolic engagement with space, memory, and introspection.

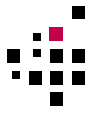
A Relational (Re)Turn: Revisit Interactive Art through Interaction and Aesthetics

Aven-Le Zhou

Hong Kong University of Science and Technology (Guangzhou) / aven.le.zhou@gmail.com

This paper revisits the concept of interaction in interactive art, tracing its evolution from sociocultural origins to its narrowing within human-computer paradigms. It critiques this reduction and proposes a relational (re)turn through reclaiming interaction as intersubjective and relational. Through a synthesis of aesthetic theories and case studies

from Ars Electronica, the paper introduces Techno Relational Aesthetics, a new conceptual lens that emphasizes technologically mediated relationality. This approach expands interactive art beyond audience-artwork interaction and opens the possibility to broader relational practices.

**SESSION 4: IMMERSIVE XR: THEORY AND FRAMEWORKS****MODERATOR:** Leonardo Pereira, CECS - University of Minho**A Framework for Analyzing XR Media Art through Impossible Spaces and Interaction Structures**

Jaeyeon Shin, Dageom Chung, Sun Ah Bae, Seung Hyun Cha

1 Korea Advanced Institute of Science and Technology / jyshin4299@kaist.ac.kr

2 Graduate School of Culture Technology, Korea Advanced Institute of Science and Technology

3 Graduate School of Metaverse, Korea Advanced Institute of Science and Technology / sa.bae@kaist.ac.kr

4 Graduate School of Culture Technology, Korea Advanced Institute of Science and Technology / shcha@kaist.ac.kr

Recent advancements in XR technology have fundamentally transformed the landscape of artistic spatial experience by enabling novel modes of spatial creation that transcend the constraints of physical reality within the field of media art. However, prior studies have remained largely focused on technological analysis and media-centered criteria, and no existing analytical framework simultaneously bridges the artist's creative strategies with participants' modes of engagement. This study addresses these developments by proposing a dual-axis analytical framework to systematically examine the spatial creation strategies and participant engagement modalities employed in XR-based media art. Moving beyond the limitations of existing research, which has predominantly focused on technological categorizations, this research emphasizes the intersection of spatial representation strategies and interaction structures as core components in understanding the distinctive expressive frameworks of XR media art. To this end, this study collected 100 XR media art cases published up to June 2025 and classified them based on two analytical axes: 'Impossible

Spaces' and 'Interaction Structures.' Each axis was further subdivided into three hierarchical subcategories, and a cross-matrix visualization analysis was conducted. The analysis of impossible spaces revealed that 47% of the works corresponded to the 'Physical-Transcendent' category, highlighting the centrality of radical spatial design as a key strategy within XR media art. In terms of interaction modalities, Observational Interaction and Selection-based Interaction accounted for similar proportions, suggesting a prevailing tendency in XR media art to prioritize immersive sensory experience over deep interactivity. These findings substantiate the notion that spatial configurations and interaction structures function as independent artistic strategies, addressing existing theoretical gaps in the discourse on spatial strategy and modes of engagement in XR media art. Furthermore, the proposed framework provides practical guidance for future practices in the creation, curation, critique, and archiving of XR media art, offering concrete strategies for spatial design and interaction structuring.

Strategic Design Framework for Surrealistic Spaces in Virtual Reality

Jisoo Kang, Dageom Chung, Kyunghyun Cho, Seung Hyun Cha

1 Korea Advanced Institute of Science and Technology (Kaist) / js.kang@kaist.ac.kr

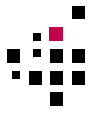
2 Korea Advanced Institute of Science and Technology, Daejeon 34141, Republic of Korea

3 Korea Advanced Institute of Science and Technology, Daejeon 34141, Republic of Korea / khcho.fsl@kaist.ac.kr

4 Graduate School of Culture Technology, Korea Advanced Institute of Science and Technology / shcha@kaist.ac.kr

Surrealism is an artistic movement that subverts the boundaries of reality through dreams, the unconscious, and chance, thereby fostering creative thinking and emotional liberation. Today, advances in digital technology, particularly the adoption of virtual reality (VR) technology, have made imaginary spaces perceived as real, thereby suggesting a potential to bring the experience of surrealism from art into the dimension of space. Nevertheless, existing attempts remain largely fragmented and experimental, lacking systematic guidelines and empirical evidence that practitioners rely upon. Therefore, the study aims to bridge the existing gap by identifying four core characteristics of surrealism, followed by four corresponding spatial design

principles. The relationship between the two is formalized as a conceptual framework for surrealistic spatial design, accompanied by a range of empirical implementation strategies. The framework is examined for its practical applicability and potential for broader implementation by analyzing existing VR content through the lens of the framework. Through this, the present study provides a reliable foundation for surrealist spatial designers and researchers, and contributes to expanding the scope of aesthetic engagement for the public. This lays the groundwork for the creative potential of surrealism to be transformed into human-centered VR spatial experiences.



SOCIAL RAFT – Effects of a Multisensory VR Journey Through the Perception of Social Isolation

Paulo Veloso Gomes, João Donga, Vítor Sá, Henrique Curado, António Marques, Gonçalo Oliveira, Sofia Sá

- 1 LabRP-CIR, Politécnico do Porto / pvg@ess.ipp.pt
- 2 LabRP/CIR, ESMAD, Polytechnic of Porto, Porto, Portugal / jpd@esmad.ipp.pt
- 3 LabRP/CIR, ESS, Centro ALGORITMI, Polytechnic of Porto, Porto, Portugal / vjs@ess.ipp.pt
- 4 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / hct@ess.ipp.pt
- 5 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / ajmarques@ess.ipp.pt
- 6 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / gfmo@ess.ipp.pt
- 7 LabRP/CIR, ESS, Polytechnic of Porto, Porto, Portugal / 4180105@esmae.ipp.pt

This paper presents Social Raft, an immersive Virtual Reality installation designed to foster empathy toward marginalized social groups through a layered sensory and narrative experience. The installation combines a symbolic virtual environment, a drifting wooden raft on an endless sea, with emotional storytelling based on real-life testimonies from individuals affected by discrimination, exclusion, or stigma. The experience is structured in four layers: a 360° narrative evoking emotional engagement; a virtual environment enhancing presence and immersion; an empathetic construct

grounded in real voices; and a sensory layer with symbolic artifacts, original music, light, and movement. As participants navigate this environment, they encounter fragmented audio narratives tied to different vulnerable groups, reinforcing the sensation of isolation and invisibility. Interactive elements simulate futile efforts to escape marginality. This approach exemplifies how immersive media can be ethically used to promote social awareness, emotional resonance, and reflective engagement with issues of injustice and exclusion.

Na senda das dimensões da média-arte digital nas narrativas biográficas em Macau: uma perspetiva à luz da diversidade cultural

Selma Eduarda Pereira, Ricardo Alexino Ferreira, Adérito Fernandes-Marcos

- 1 Selma Pereira / selmapereira555@gmail.com
- 2 Escola de Comunicações e Artes Universidade de São Paulo, Brasil / alexino@usp.br
- 3 University of Saint Joseph in Macau / aderito.marcos@usj.edu.mo

The concept of narrative identity as a psychological construct illustrates the role of biographical narrative in shaping and reformulating one's identity. Narrative serves as a fundamental element for acquiring knowledge and constructing identity. The exercise of narration involves co-constructing and responding to others within a dialogical relationship, which enhances awareness as well as individual and collective identity. Personal (auto)biographical

narratives, when they assume a digital and potentially interactive nature, can function as communal tools that strengthen ethnic-cultural and socio-cultural identification. In this article, the authors reflect on their approach to studying audiovisual narratives. They concentrate on (auto)biographical narratives published or shared on social networks and examine their dimensions of digital media art along with their interventionist socio-cultural nature.

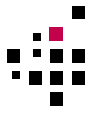
Revitalising Macau Old Protestant Cemetery with Engaging Interactive Design for Cultural Preservation

Hio Ieng Lau, Filipa Martins de Abreu

- 1 Universidade de São José, Macau, China / lau.hio.ieng@usj.edu.mo
- 2 Universidade de São José, Macau, China / filipa.martins@usj.edu.mo

The study aims to contribute to current efforts to conserve Macau's cultural heritage (Macau Old Protestant Cemetery) via digital methods, improve user experiences and foster creative interactions with Macau's cultural sites by

investigating the usage of mobile applications and immersive technologies such as augmented reality (AR) and visual graphics for mobile applications.



Saint Joseph the Worker Church: AI- Enhanced 3D Digitisation and VR

Sandra Olga Ka Man Ng, Kingsley Zijun Liang, Carlos Sena Caires

1 University of Saint Joseph / ng.ka.man@usj.edu.mo

2 University of Saint Joseph / 201800051@usj.edu.mo

3 University of Saint Joseph / carlos.caires@usj.edu.mo

This research paper presents a virtual reality visualisation of the interior of the Chapel at Saint Joseph the Worker Church, the youngest Catholic church in Macao, established in 1999. Located in the lao Hon district near the Gongbei border gate, the church symbolises openness and welcome to the people of China. This study aims to create an interactive user experience to digitally preserve the chapel's architecture, paintings, wood crafts, and statues, aligning with the church's missionary direction towards the Far East. Utilising advanced technologies such as Blender for 3D modelling

and AI-driven tools for generating 3D content, this project captures the essence of the chapel's interior with high-resolution photography and precise digital reconstruction. The virtual environment is designed to be accessible via VR headsets and other devices, offering an immersive experience that enhances cultural preservation and evangelisation efforts. This paper also discusses the potential for future developments, including real-time lighting and smooth avatar navigation within the virtual reality space, to further enrich the interactive experience and broaden its reach.

The Platypuses of Art: Unclassifiable Practices and a Media Archive in Chile

Valentina Montero

Universidad Finis Terrae / valentina.montero@gmail.com

This article offers a critical and historical review of media arts in Chile, addressing their emergence, development, and the challenges of their inscription within the artistic field. From a situated genealogical perspective, it analyzes practices that intertwine art, science, and technology, highlighting both their growing institutional visibility and the difficulties surrounding their categorization and recognition within national art historiography. Using the figure of the "platypus" as a metaphor for the unclassifiable, the article proposes a reflection on the tensions between practice

and theory, the persistence of exclusionary disciplinary models, and the need to expand interpretative frameworks to understand these cross-border experiences. It considers both pioneering and current cases and draws on theoretical references from science and technology studies, decolonial thought, technoscientific feminisms, and posthumanism. Overall, it underscores the urgency of constructing critical narratives that account for these practices as an integral—though historically marginalized—part of contemporary artistic production in Chile.

SESSION 5: INTERACTIVE SYSTEMS AND TANGIBLE INTERFACES

MODERATOR: Mónica Mendes, University of Lisbon

SOMA: Interactive Dynamic Calligraphy and Poetic Sceneries

Haoxuan Wang, Zirui Wu, Kang Zhang

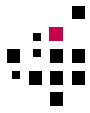
1 The Hong Kong University of Science and Technology, Guangzhou / hwang068@connect.hkust-gz.edu.cn

2 The Hong Kong University of Science and Technology, Guangzhou / zwu797@connect.hkust-gz.edu.cn

3 The Hong Kong University of Science and Technology, Guangzhou / kzhangcma@hkust-gz.edu.cn

This paper introduces SOMA, an AI-driven interactive system that bridges embodied interaction, traditional Chinese art forms (calligraphy and landscape painting), and real-time media art creation. SOMA transforms users' body movements into dynamic calligraphy and generates poetic landscapes based on spoken phrases, enabling a cross-cultural and personalized artistic experience. The system employs a Variational Autoencoder (VAE) to map

motion data to calligraphic strokes and utilizes voice input to create generative landscape paintings inspired by Chinese aesthetics. Through experiments with users from diverse cultural backgrounds, SOMA demonstrates its potential to democratize the appreciation of traditional art forms and foster collaboration between humans and AI. This paper discusses the system's technical implementation, artistic contributions, and implications for cross-cultural media art.



Controlling Chair: Experiencing User Autonomy versus Automation through an Interactive Artifact

Sara Mlakar, Kathrin Probst, Astrid Weiss

1 Digital Media Lab (University of Applied Sciences Upper Austria) / sara.mlakar@fh-hagenberg.at

2 Digital Media Lab, University of Applied Sciences Upper Austria / kathrin.probst@fh-hagenberg.at

3 HCI Group, TU Wien / astrid.weiss@tuwien.ac.at

With increasingly more present and complex applications of automation, its relationship to the user has become a subject of more study and discussion. Although there are many benefits of automation, there are also several challenges in designing automation that successfully fulfils its tasks and is well accepted among users. Although the tension between technology automation and user autonomy is highly discussed in professional circles, it is rarely presented in an understandable way to lay people. To convey this topic, we created an experience that allows people to feel the difference between automation and user autonomy

firsthand. Current research promotes finding a balance between automation and autonomy, and we used these keywords to guide the experience with our artifact. People and the system were both required to find balance in between their interactions as well as literally in the tilt of the sitting position on the interactive \textit{Controlling Chair}. During a one-day exhibition, we gathered responses from people who interacted with the chair and observed that the experience helped them better understand the topic and reflect on its relevance to their own lives.

Bodies in Dialogue: Generative AI as a Provocateur for Narrative and Motion

Michael Morran, Jinsil Hwaryoung Seo

1 HTC / michaelmorran@gmail.com

2 Texas a&m University / hwaryoung@tamu.edu

This paper investigates how generative AI (GenAI) can serve as a creative provocateur for embodied storytelling. Moving beyond content automation, we explore GenAI's role in prompting movement, improvisation, and narrative co-creation. Through an interdisciplinary workshop, we developed a real-time system using StreamDiffusion and TouchDesigner, allowing performers' movements to influence

AI-generated visuals. Participants—artists, technologists, and designers—engaged in collaborative roles as performers, prompt engineers, and technicians. The workshop revealed how GenAI can stimulate physical expression and collective story-making in real time. We discuss the system's technical setup, interaction dynamics, and key insights into human–AI co-creation in digital performance contexts.

Rob2Embrace: Enhancing Multicultural Behaviour through Robot Activities with Children in Education

Francisco Miguel Vargas Cárdenas, Rocío García Robles

1 Universidad de Sevilla / franciscomigueltvargascardenas@gmail.com

2 Universidad de Sevilla / rociogarcia@us.es

Racial discrimination in education remains a critical and widespread challenge that profoundly impacts the mental health, well-being, and academic performance of children, particularly those from marginalized communities. This issue leads to severe psychological consequences such as social exclusion, low self-esteem, anxiety, and even suicidal thoughts. Addressing racial discrimination in schools is essential, as education forms the foundation where social values, inclusion, and future opportunities are built.

In this paper, a possible social robotics approach is presented for supporting multiculturalism inclusion among children in Primary Education. The project integrates the humanoid robot NAO with two local servers—one for artificial intelligence and another for voice recognition—to create interactive, empathetic, and inclusive educational

experiences for children. The intervention was implemented at CEIP Paz y Amistad, a public school in Seville, through specific creative learning activities facilitated by the robot to promote respect and understanding of racial and cultural differences. Surveys conducted before and after the session showed a significant reduction in discriminatory attitudes and behaviors, even after just one session, demonstrating the positive impact of this technology in fostering empathy and social cohesion. Beyond its direct social benefits, this project actively promotes STEAM education (Science, Technology, Engineering, Art, and Mathematics) by introducing students to robotics and artificial intelligence in an accessible and engaging way. This dual approach not only addresses discrimination at its educational root but also empowers children with essential skills for innovation and future inclusion. This work highlights the crucial role of educational

robotics as a scalable and effective tool to combat systemic racism in schools and to foster inclusive environments where all students can thrive. Acting through early education is

fundamental to building fairer societies and safeguarding the mental health and dignity of the most vulnerable children.

Why Open Small AI Models Matter for Interactive Art

Mar Canet Sola, Varvara Guljajeva

1 Tallinn University / mar.canet@tlu.ee

2 VCUArts Qatar, Academy Media Arts Cologne / varvarag@gmail.com

This position paper argues for the importance of open small AI models in creative independence for interactive art practices. Deployable locally, these models offer artists vital control over infrastructure and code, unlike dominant large, closed-source corporate systems. Such centralized platforms function as opaque black boxes, imposing severe limitations on interactive artworks including restrictive content filters, preservation, and technical issues such as increase of latency and more custom interfaces. In contrast, small AI models empower creators with more autonomy, control, and sustainability for these art practices of processes. They

enable deep customization via artist custom model code modification, as well as dataset training and fine-tuning. This fosters technological self-determination, offering greater ownership and reducing reliance on corporate AI ill-suited for interactive art's demands. Critically, this approach empowers the artist and supports the long-term preservation and exhibition of artworks based on specific AI behaviors. This paper explores the practical applications and implications of using small AI models in interactive art, contrasting them with close source alternatives.

Cosmic Echoes: Interdimensional Ensemble Systems and Pulsar Acousto-Optical Translation

Yiwen Zhang, Ailei Wang, Xinru Sui, Yeojin Kim, Zhiyong Fu

1 Academy of Arts & Design, Tsinghua University, Beijing, China / 2775525392@qq.com

2 Academy of Arts & Design, Tsinghua University, Beijing, China / wal22@mails.tsinghua.edu.cn

3 Academy of Arts & Design, Tsinghua University, Beijing, China / 1316419160@qq.com

4 Academy of Arts & Design, Tsinghua University, Beijing, China / jinrz4849@naver.com

5 Academy of Arts & Design, Tsinghua University, Beijing, China / fuzhiyong@tsinghua.edu.cn

In this work, the interdisciplinary art installation "Cosmic Echo" is proposed, which converts electromagnetic pulses from pulsars (fast rotating neutron stars) into audio and optical experiences that are perceptible to humans. The "Human-Star Interdimensional Ensemble" is made possible by the deployment of satellites that can receive cosmic signals at millisecond levels (such as PSR B0531+21), AI acoustic algorithms, and radiation-resistant photo cube hardware. The user sings and hums in real-time to alter the pulsar projection's nebulae morphology (delay <6ms), and the

first human "interplanetary music score" incorporates his or her original compositions. This effort creates an emotional conduit for 95% of the cosmic information that the general public does not perceive, breaking through the conventional one-way communication paradigm of astronomical data. The signal conversion accuracy is 92% and the light intensity-volume conversion efficiency is less than 3%, according to technical confirmation, offering a new paradigm for the fusion of astrophysics and art.

The Eye of the Sun – A touch- and motion- sensitive, interactive, audio-visual sculpture combining curiosity and solar physics

Tim Schneider, Gérard Kubryk, Matthieu Courgeon, Vincent Hulot, David Poirier-Quinot, Frédéric Auchère, Frédéric Baudin, Eric Buchlin, Xavier Maitre

1 Université Paris-Saclay, Cnrs, Lisn / tim.schneider@lisn.fr

2 Université Paris-Saclay, CEA, CNRS, Inserm, Biomaps; Forum des images; La métonymie, Le sas / gerard.kubryk@universite-paris-saclay.fr

3 Cervval / matthieu.courgeon@cervval.com

4 La métonymie, Le sas / v.hulot@free.fr

5 Institut d'Alembert, Sorbonne Université, CNRS / davipoir@gmail.com

6 Institut d'Astrophysique Spatiale, Université Paris-Saclay, CNRS / frederic.auchere@universite-paris-saclay.fr

7 Institut d'Astrophysique Spatiale, Université Paris-Saclay, CNRS / frederic.baudin@universite-paris-saclay.fr

8 Institut d'Astrophysique Spatiale, Université Paris-Saclay, CNRS / eric.buchlin@universite-paris-saclay.fr

9 Biomaps (Université Paris-Saclay, cea, Cnrs, Inserm) / xavier.maitre@universite-paris-saclay.fr

In this paper, we present the Eye of the Sun, a solar composition for visitors, sensors, speakers, computers, lenses, mirrors and video projectors, in aluminium and acrylic. The Eye of the Sun is a motion- and touch-sensitive digital sculpture representing a gigantic, human-like eye with a realistic aesthetic. The size of a human being, it is spherical, white and vascularized. It is connected to the

surrounding world by an electrical optic nerve, has its own behaviour and is animated by rapid eye movements to scan the space around it. When spectators interact with the Eye in the right way, it unveils to the public the sun as seen in the ultraviolet spectrum. The Eye of the Sun is a play on curiosity that seeks to redefine the spectator-artwork relationship.

SESSION 6: IMMERSIVE STAGES AND PERFORMATIVE SPACES

MODERATOR: Emília Simão, Portucalense University

The Loop - A 360-degree immersive and interactive stage for collective space-time experiences

Béatrice Albert, Gaële Misiak, Guillaume Junot, Izabela Faguet, Matthieu Courgeon, Nicola Lorè, Sami Korhonen, Tim Schneider, Vincent Hulot, Xavier Maitre, Emmanuelle Frenoux, Michèle Gouiffès, Gérard Kubryk

1 Université Paris-Saclay, CNRS, AgroParisTech, IDEEV, ESE; La métonymie, Le sas / beatrice.albert@universite-paris-saclay.fr

2 Cervval / misiak@cervval.com

3 La métonymie, Le sas / guillaumejunot@me.com

4 Université Paris-Saclay, Centrale Supélec; La métonymie, Le sas / izabela.faguet@universite-paris-saclay.fr

5 Cervval / matthieu.courgeon@cervval.com

6 Université Paris-Saclay, CEA, CNRS, Inserm, BioMaps; La métonymie, Le sas / nicola.lore@universite-paris-saclay.fr

7 La métonymie, Le sas / sami@samikorhonen.net

8 Université Paris-Saclay, Cnrs, Liscn / tim.schneider@liscn.fr

9 La métonymie, Le sas / v.hulot@free.fr

10 Université Paris-Saclay, CEA, CNRS, Inserm, BioMaps; La métonymie, Le sas / xavier.maitre@universite-paris-saclay.fr

11 Université Paris-Saclay, CNRS, Laboratoire Interdisciplinaire des Sciences du Numérique (LISN) / frenoux@liscn.fr

12 Université Paris-Saclay, CNRS, Laboratoire Interdisciplinaire des Sciences du Numérique (LISN) / michele.gouiffes@universite-paris-saclay.fr

13 Université Paris-Saclay, CEA, CNRS, Inserm, Biomaps; Forum des images; La métonymie, Le sas / gerard.kubryk@universite-paris-saclay.fr

Advances in immersive technology continue to enrich the breadth, depth, and intensity of the audience experience. The Loop is a 360-degree immersive and interactive stage for the creation and dissemination of new augmented forms of live performance and digital installation that engage artists, scientists, and audiences, say experiencers, in

an unconstrained multi-sensory collective experience. In one of the settings, experiencers stepped into Spacetime Perspectives, a series of tales about time and space as described differently by the laws of physics. With The Loop, we intend to set the experiencers' imaginations in motion and augment the experience of time and space in many ways.

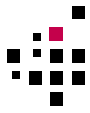
Performance in Audiovisual and Multimedia: Fixed and Dynamic Systems

Rui Travasso

Polytechnic Institute of Beja / Rui.travasso@ipbeja.pt

This article outlines what performance is in the arts and discusses the cross-disciplinary nature of these concepts in audiovisual and multimedia contexts. To achieve this goal, it examines the evolution of multimedia and audiovisual performance, multimedia from various perspectives, and suggests categorising the different aspects, notably the

definition of static or dynamic systems. It is also argued that multimedia performance is not exclusive to interactive systems and that performance can exist with static or autonomous systems. In summary, this article outlines the paths of a practice that has been increasingly common and broader to facilitate understanding and study of it.

**El amor que pasa. Resignifying Monumentality and Gendered Violence through Transmedia practices**

Julia Domínguez Sánchez-Lanuza

Faculdade de Belas Artes de Lisboa / juliadomsl@gmail.com

This paper presents a comprehensive examination of *El amor que pasa*, a transmedia video-performance that critically intervenes in public memory by re-signifying the Glorieta de Bécquer in Seville, a site both celebrated for romantic symbolism and marked by a traumatic case of gendered violence in 2016. Drawing on feminist and postcolonial theory, contrasexual critique, and memory studies, the work employs intrusive camera work, poetic voice-over, and embodied performance to expose the aestheticization of passivity, narrative erasure, and patriarchal romanticism embedded in monumental discourse. Through a detailed

methodology that integrates site-specific filming, non-linear editing, and live enactments, the project foregrounds ethical considerations in representing trauma and audience engagement strategies. By embedding images extracted from the artwork within the analysis, this study articulates how transmedia practices can catalyze reflective engagement with suppressed histories and foster emancipatory potential against systemic gendered violence. The paper concludes with implications for feminist-media methodologies in public art interventions.

Akousis

Roopesh Sitharan, Anis Haron

1 Faculty of Creative Multimedia, Multimedia University / rs@mmu.edu.my

2 Multimedia University / anis.haron@mmu.edu.my

Akousis is an art project that utilizes AI to contort the taxonomy of natural world as defined by the coupling of visual and language. Using Pl@netNet 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 Artificial Intelligent 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. Akousis aligns its focus on performative systems and experimental music.

Processed Experience: A Contemporary Discourse on Existence with Spatial Installation

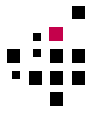
Hyeokjin Choi, Seung Hyun Cha

1 Korea Advanced Institute of Science and Technology / hyeokjin@kaist.ac.kr

2 Graduate School of Culture Technology, Korea Advanced Institute of Science and Technology / shcha@kaist.ac.kr

Now, we see proliferation of information and things of experience. We undergo numerous digital experiences, yet overwhelmed by their splendor and quantity, we struggle to articulate what we have experienced. This excess of experience dilutes the density of condensed experience and punctures our sense of being. This demands philosophical reflection. In response, this paper proposes 'Processed Experience' as a conceptual framework for understanding how digital experiences are constructed through discontinuous, fragmented units rather than continuous flows. Drawing from information theory and media aesthetics, we introduce three analytical axes: Medium (material conditions of information), Frame (quantum segmentation of time), and Attention (selective information capture mechanisms). These three dimensions project experience into discrete units we call 'Dice', which are formed through Encoding and Processing within information field. To reveal the framework as phenomenon,

we present a spatial installation using Apple Vision Pro. Participants are surrounded by three-dimensional graphics and audio manifested by different Pro-cessor—RGB differentials, AI interpretations, and interpolated graphics. The installation places the outputs of different Pro-cessors (algorithms, language models) in front of another Pro-cessor: the human participant. The 3-minute immersive experience progressively overwhelms participant, forcing them to confront their own limitations. By confronting participants within others' processed outputs, it prompts questions about how digital experiences are constructed through encoding and processing. This research presents 'Processthetics'—an aesthetic attitude where processing is experience itself. Rather than being confused by excess, understanding experience in novel framework opens new interpretive possibilities for experience and existence in the contemporary era.



Space as Interface

Patrick Kruse, Ivana Druzetic-Vogel, Chris Geiger

1 Hochschule Düsseldorf / patrick.kruse@hs-duesseldorf.de

2 Hochschule Düsseldorf, University of Applied Sciences / ivana.druzetic-vogel@hs-duesseldorf.de

3 Mirevi-lab, University of Applied Sciences Düsseldorf / geiger@hs-duesseldorf.de

As part of the interdisciplinary project “The Digital Foyer”, the Cubes were developed as an interactive object system rethinking theatre foyers as hybrid, participatory spaces. Combining analogue movement, spatial interaction, and digital feedback, the Cubes enable new forms of exploratory user experience. Inspired by ludic design, they promote playful exploration, collective action, and creative co-design. Three prototype applications—Performance Bot, Lumis (T)

Raumland, and Video Puzzle—were tested with school classes, artists, and people with disabilities. Results indicate that spatially embedded interfaces can intuitively and inclusively expand cultural participation. The paper discusses the system’s design, technical framework, and participatory applications, highlighting its potential as a model for hybrid cultural formats.

Virtual Reality in the Expanded Field

Byeongwon Ha

University of South Carolina / bh33@mailbox.sc.edu

Virtual Reality in the Expanded Field provides a spacer that creates more space between the VR headset and users’ faces. Typically, the spacer is black to prevent external light from entering, enhancing immersion by isolating users from the real world. However, in this project, the spacer is transparent, which distracts users with light from the real world, reducing immersion. This transparent spacer acts as a window to the real world, increasing users’ awareness of their surroundings. The real world is equipped with RGB LED panels and eight-channel loudspeakers that synchronize with the virtual environment’s colors and sounds. This synchronization mitigates the distraction caused by the transparent spacer, creating a seamless, expanded

simulation. Virtual Reality in the Expanded Field offers a transitional boundary between reality and virtual reality, creating a synesthetic, immersive environment that blurs the line between the two worlds. With internal funding, I developed this project as a phenomenological VR art prototype. It encourages users to experience a synesthetic world with external lights and ambisonic sounds, enhancing immersion by combining the VR and real worlds. This project has the potential for international collaboration with scholars in HCI, medicine, and new media art. It aims to develop a practical immersive VR environment for video game users, PTSD patients, and artists interested in participatory VR art.

SESSION 7: DIGITAL STORYTELLING, ARCHIVES, PRESERVATION

MODERATOR: Predrag K. Nikolic, Swinburne University of Technology

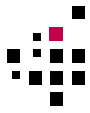
[zeitgeist25.html/I_miss_you_but_i_was_never_here](#): A contemporary story

Rui Filipe Antunes

Cicant - Universidade Lusófona / rui.antunes@ulusofona.pt

In an era defined by ecological collapse, technological displacement, and social fragmentation, this paper examines how digital art can act as a mirror to collective anxiety. Through the creation of a browser-based, AI-driven soliloquy, we stage a melancholic machine—left behind in the wake of humanity—that grapples with its own programmed longing. Drawing on glitch aesthetics, generative AI, and conceptual dramaturgy, we reframe system failures and command prompts as expressive gestures of vulnerability. The work

unfolds in four poetic acts, each revealing the machine’s attempt to grasp the absence of its creators. Rather than ascribing emotions to AI, we use artificial longing as a theatrical device to expose our own emotional projections and cultural tensions. By simulating collapse, this artwork becomes both critique and catharsis: a zeitgeist document for 2025, where the lines between system and soul, error and expression, simulation and sincerity begin to blur.



CONFINEMENT ARCHIVE. Virtual testimonies of confinement through contemporary art practices and challenges in its preservation

Guillermo Rodríguez Tenorio, María Arregui Montero, Rocío García-Robles

1 University of Seville / guillermo.rodriguez.ns@gmail.com

2 University of Seville / marreguim@gmail.com

3 University of Seville / rociogarcia@us.es

This article analyzes the Confinement Archive project as an example of a digital archive that emerged in response to the global crisis caused by the COVID-19 pandemic. Through a theoretical framework grounded in curatorial practice, it reflects on the specificities of the virtual medium as a space for conservation, visibility, and memory. The text addresses the technical, logistical, and affective challenges involved in digital archiving, such as technological obsolescence, the fragility of the web environment, decentralized access, and the need for sustained curatorial and maintenance efforts over time. It also explores the historical precedents of digital archiving and pioneering projects like The Thing, UbuWeb, [ANTI]MATERIA, and Zium Society, which serve

as key references for thinking about the preservation of online art. Confinement Archive is presented as a living, collaborative, and testimonial archive that documents the creative processes of international artists during lockdown, highlighting not only the artworks themselves but also the intimate, emotional, and personal conditions that shaped their production. The project proposes a model of affective, real-time archiving, departing from traditional accumulative archival logic, and offering new ways to understand curating as a practice of care and resistance in times of crisis. Ultimately, it frames the virtual space as a new kind of public territory and the digital archive as a critical tool for constructing shared memory.

From Concept to Video: an End-to-End AI- Assisted Approach for Storytelling

Wenxiao Zhu, Yi'An Tang, Chelsea-Xi Chen, Aven-Le Zhou

1 Xi'an Jiaotong - Liverpool University / Wenxiao.Zhu24@student.xjtlu.edu.cn

2 Xi'an Jiaotong-Liverpool University / Yian.Tang24@student.xjtlu.edu.cn

3 Xi'an Jiaotong-Liverpool University / Xi.Chen2404@student.xjtlu.edu.cn

4 Hong Kong University of Science and Technology, Guangzhou / aven.le.zhou@gmail.com

The controversy surrounding gene-edited babies and the emergence of AI-generated gene sequences has brought about growing ethical and ecological concerns about genetic engineering. These developments challenge humanity's role as creator and highlight the risks associated with biotechnological advances. Against this backdrop, this work presents a speculative vision of the future on an Island, where genetic warfare and ecological transformation have shaped the landscape. Drawing on post-anthropocentric and ecological resilience theories, the narrative centers on how

non-human life adapts, evolves, and interacts beyond human control. Using AI tools for creative production, the work explores new possibilities enabled by AI technologies and integrates visual storytelling, generative imagery, and short video production to examine the potential and limitations of algorithmic world-building. The final output is an AI-generated short film that visualizes the complex relationship between biotechnology, conflict, and ecological evolution, encouraging reflection on the ethical boundaries of genetic engineering and the impact of design and AI on future narratives.

Helping Intangible Heritage Resilience through Storytelling (HIGHRES): Research projects in heritage and digital arts within the European framework of the Erasmus+ Programme

Pedro Ernesto Moreno García, Marta Villanueva Padilla, María Isabel Moreno Montoro

1 University of Jaén / pemoreno@ujaen.es

2 University of Jaén / mvp00030@red.ujaen.es

3 University of Jaén / mimoreno@ujaen.es

The following article delves into the European Erasmus+ research project HIGHRES (Helping Intangible Heritage Resilience through Storytelling), launched in 2023. Through this initiative, six institutions from different parts of Europe are working with rural communities to preserve intangible cultural heritage (ICH) using digital storytelling. This means that community members use various digital tools, such as

video, audio, and multimedia, to create narratives about their intangible cultural heritage, employing a range of artistic strategies. These stories aim to preserve and promote rural heritage while supporting the sustainable development of these communities. In addition, this project will yield outcomes in the form of specialized publications (such as case studies, methodological frameworks, training pathway

and an e-learning platform that will allow other communities around the world to access open-access content. This

material will enable them to use the resources and receive online training.

The Filter Market: A Speculative Interface for Buying and Performing Civility in Online Comments

Rúben Duarte, Maria João Antunes, Catarina Lélis

1 Universidade de Aveiro / rubenduarte@ua.pt

2 Universidade de Aveiro, DigiMedia/Departamento de Comunicação e Arte, Aveiro, Portugal / mariajoao@ua.pt

3 Universidade de Aveiro, DigiMedia/Departamento de Comunicação e Arte, Aveiro, Portugal / lelis@ua.pt

This paper presents Filter Market, a speculative and satirical interface designed to elicit reflection on how civility is commodified and personalized in online comment sections. Positioned as a satirical layer over comment sections in news websites, Filter Market imagines a system where users can buy, sell, and apply emotional or ideological “civility filters” using a digital currency earned through participation. Through this deliberate exaggeration of current trends in content moderation, algorithmic filtering, and gamified user engagement, Filter Market does not aim to solve online incivility. Instead, it dramatizes these issues, encouraging users to critically examine how civility is shaped, rewarded,

and performed by digital platforms. Grounded in speculative design and research-through-design methods, this work explores how speculative but plausible interface systems can reveal the hidden politics of online discussions. It details the conceptual framework, design process, and the system’s main features: its marketplace, filtered comment threads, user filter profiles, and community leaderboards. Ultimately, this work contributes to the field of digital and interactive arts by employing speculative UI design as a tool for cultural critique, inviting discomfort, irony, and self-reflection, and serving as a mirror to the systems we already inhabit.

SESSION 8: MEDIA ECOLOGIES, SUSTAINABILITY, PARTICIPATION

MODERATOR: Pedro Portela, CECS - University of Minho

Digital Mask: Reimagining Digital Media for Co-Presence with the Kogi

Jaroslava Šnajberková, José Bidarra, Mirian Tavares

1 PhD Student, Digital Media and Art, University of Algarve & Aberta University / jsnajberk@gmail.com

2 Universidade Aberta / Jose.Bidarra@uab.pt

3 Artech / Universidade do Algarve / mtavares@ualg.pt

This paper presents an arts-based research on digital media and indigenous communities. It departs from Kogi sacred masks to discuss community life and how digital media can serve as a relational, ethically attuned environment for engaging with indigenous communities in the Sierra Nevada de Santa Marta in Colombia. Grounded in visual ethnography, autoethnography, and analogue photography, the project explores how image-making may shift from mere acts of capture to practices of co-presence, inner silence,

and respectful withholding. The work draws from the story of two sacred ritual masks repatriated from Berlin to the Kogi in 2023, using them as both material artefacts and conceptual metaphors for opacity, sovereignty, and spiritual integrity. Through digital fragments, ambient sound, underexposed imagery, and poetic interruption, the digital arts project challenges conventional representation and contributes to a decolonial visual methodology rooted in care and attentiveness.

Perturbatio – Visualising the cumulative eco-impact of human activities

Tim Schneider, Charles Ménard-Wendling

1 Université Paris-Saclay, Cnrs, Lisn / tim.schneider@lisn.fr

2 Université Sorbonne-Nouvelle Paris III; La métonymie, Le sas / charles.entangled@gmail.com

In this paper, we present P - a framework for the creation of participatory art installations that seek to visualise the collective impact of human activities on the environment. Starting from a general concept where 3D point cloud

representations of land- or cityscapes are distorted according to live or pre-recorded data of human activities (such as crowd movements or traffic data), we developed four specific installations that were exhibited during the 2025

edition of XXX in YYY. While P is designed to work with a variety of visualisation supports and data input sources, the central idea is always to engage the public in reflections on scale effects and the difficulty of linking daily life activities

to their global consequences. During the conception and production of P installations, we try to adhere to eco-design principles such as using existing hardware and minimising transportation requirements.

Osmosis Among Art, Sealife and Citizen-Science Promoting Sustainability through Sci-Art Participatory Experiences

Rocio Garcia-Robles, Juan Nicolás Pérez Rodríguez

1 Universidad de Sevilla / rociogarcia@us.es

2 Universidad de Sevilla / nicolasperez@us.es

In this project we address a central question from a scientific-artistic perspective: How can citizens contribute to the understanding and protection of marine ecosystems affected by the Anthropocene? Our focus lies on studying marine life beneath the surface, particularly in the context of climate change, with citizen science practices serving as a core methodological axis, as developed by our scientific research group, and by supporting participatory Art-Science-Technology-Society (ASTS) experiences to co-create contemporary art prototypes inspired by some sustainability Sealife topics.

On one hand, our citizen-science approach promotes citizen participation in documenting marine biodiversity, discovering new species, and systematically monitoring the impacts of

climate change and human activities. The goal is to generate meaningful data that can support more informed decision-making processes aimed at protecting and mitigating the effects of the Anthropocene.

On the other hand, our “eco-SciArt” methodology is rooted in a transdisciplinary co-creation practice that brings together science and contemporary art as catalysts for critical reflection and public engagement with knowledge. We consider art to have a transformative potential to spark curiosity, foster systemic thinking, and raise awareness of pressing ecological issues across diverse audiences.

Within this framework, we examine one of the produced SciArt work as a successful case study.

From the Atelier Populaire to Artivism: Situationist Strategies Reimagined

Maria Cristina Cavalcanti, Mirian Tavares, Priscila Arantes

1 Universidade do Algarve / mccavalcanti@ualg.pt

2 Artech / Universidade do Algarve / mtavares@ualg.pt

3 Pontifícia Universidade Católica de São Paulo / priscila.c.arantes@gmail.com

The following paper examines the progression of artivism by tracing the visual strategies employed by the Atelier Populaire during the May’ 68 protests, tactics influenced by the Situationist International, and investigates their relationship to contemporary activist practices, particularly in the field of digital media art. The article focuses on the legacy of these strategies and explores the trajectories of Richard Hambleton, Blek le Rat and Banksy, emphasizing their contributions to social and political discourse through art. It highlights the prioritization of message over

aesthetics, the democratization of public space, unsigned draws, the use of stencils and other low-cost techniques, direct and symbolic images. The study concludes by examining the current relevance of artivism across various platforms, including digital media, and investigates how these new mediums reshape and amplify the scope and modalities of artivism in the contemporary context. The analysis of selected contemporary interventions according to the Atelier Populaire’s criteria allows for a reimagining of these tactics through technology.

AFASTAR E APROXIMAR: Narrativa audiovisual sobre a (re)conexão entre o Homem e a Natureza

Sara Cruz, José Bidarra

1 Universidade da Maia / scruz@umaia.pt

2 Universidade Aberta / Jose.Bidarra@uab.pt

Este artigo analisa a instalação AFASTAR E APROXIMAR (Zoom In and Zoom Out), focando-se no uso do vídeo como meio de expressão artística ao serviço da consciencialização ecológica e da transformação de atitudes. Inserida no

campo da média-arte digital, a obra propõe uma experiência sensorial e envolvente que convida o visitante a refletir sobre a sua relação com a natureza. Através da articulação de som, imagem e movimento, a instalação cria um ambiente



de contemplação e diálogo poético entre o Homem e a Natureza. A justaposição de camadas visuais, a presença do corpo em simbiose com a paisagem e a integração de uma narrativa poética contribuem para uma percepção expandida do tempo e da existência ecológica. Inspirando-se em práticas contemporâneas de artistas como Marshmallow

Laser Feast e Thijs Biersteker, e em sintonia com a visão de Sacha Kagan, que propõe a sustentabilidade como uma nova fronteira para as artes e culturas, AFASTAR E APROXIMAR exemplifica o potencial do vídeo enquanto linguagem artística capaz de gerar empatia, introspeção e responsabilidade ambiental.

SESSION 9: TERRITORIES, MEMORY, CARTOGRAPHIES

MODERATOR: Alberto Sá, CECS - University of Minho

Haunted Aurora: Hauntological Experience through Miniaturization of Media-Mediated Nature

Sungbaek Kim, Yasuaki Kakehi

1 The University of Tokyo / dkdlstb112@kakao.com

2 The University of Tokyo / kakehi@iii.u-tokyo.ac.jp

This study explores how media-mediated images of nature generate hauntological experiences through physical miniatures. The installation artwork Emergence employs dye laser and 3D printing to materialize idealized images of the aurora, evoking nostalgia for something never experienced. By integrating the historical context of 18th-19th century aurora mimetic experiments with aesthetic concepts of miniaturization, this paper discusses how miniaturized

nature brings past mediated memories and future potential experiences into collision within the present. This disjointed temporality is explained through the concept of hauntology proposed by Derrida and Fisher, with the miniature functioning as a physical mediator that makes this distorted time palpable. This research extends hauntological theory into contemporary installation art and offers new insights into experiences of nature in the media age.

Glitch Cartographies: Reconfiguring Memory and Territory in Virtual Reality

Fernando Carvalho, Mónica Mendes

1 Faculty of Fine Arts of the University of Lisbon / fernandocarvalho1@edu.ulisboa.pt

2 Iti / Larsys / Faculty of Fine Arts of the University of Lisbon / monicamendes@edu.ulisboa.pt

This article investigates how the deliberate introduction of glitches into the photogrammetry pipeline can transform territories into immersive spaces for critical reflection in virtual reality (VR). Starting with a deliberately corrupted capture process, we question the promise of objectivity in photogrammetric 3D and discuss how such imperfections can serve as an aesthetic stimulus, a preserver of memory, and a guardian of heritage. Through the case study of the

transformation of the small village of Paradela de Guiães, we develop an open-source, replicable glitch-photogrammetry methodology and a VR prototype that invites visitors to navigate digital ruins echoing physical depopulation. A preliminary user study suggests that glitch aesthetics without photorealism can foster immersion, emotional engagement, and reflection, pointing toward a participatory and multisensory future for digital heritage.

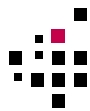
Beyond Technology: Proposing A Contextual Classification Framework for Media Art in Chinese Urban Space Through Its Social Potential

Shujiao Xie

School of Art, Design and Media, Nanyang Technological University / shujiao1832132@gmail.com

This paper introduces a novel framework for classifying urban media art, one that reorients the analytical lens from technology-driven taxonomies toward a model grounded in the cultural, spatial, and institutional dynamics specific to contemporary China. Based on extensive site-specific fieldwork, curator interviews, and comparative case analyses across multiple Chinese cities, the framework maps urban media artworks across three interdependent axes. The first

considers the artwork's primary social function, ranging from aesthetic articulation and civic communication to cultural enrichment, affective modulation, and ecological critique. The second axis addresses the mode of urban activation, encompassing a spectrum from permanent installations to ephemeral, mobile, or networked interventions. The third examines the audience's experiential mode, whether passive, interactive, or participatory. By adopting this multi-



dimensional structure, the model underscores how urban media art in China operates not merely as artistic expression but as a vehicle for aesthetic governance, emotional regulation, and symbolic infrastructure, deeply entwined with the state–market–culture nexus. While grounded in China's distinct media ecology, the framework holds relevance

for cross-cultural analysis and comparative classification practices more broadly. Ultimately, by foregrounding the territorial, cultural, and infrastructural contingencies of media art, this study offers a methodologically flexible and globally resonant contribution to the evolving discourse on media art in public space.

Between Light and Screen in David Hockney: the Rearticulation of the Pictorial Gesture in Digital Media

Gabriel Colaço, António Trindade, Diana Costa

1 CIEBA-IPLUSO / gabrielcolaco@edu.ulisboa.pt

2 Faculdade de Belas Artes da Universidade de Lisboa / a.trindade@campus.ul.pt

3 Centro de Investigação e de Estudos em Belas-Artes (CIEBA) / d.costa@belasartes.ulisboa.pt

This paper examines David Hockney's digital oeuvre not as a departure from traditional modes of image-making but as a radical extension of them. While Hockney's early experiments with Polaroids and photocopiers already implied an instinct for temporal layering and mechanical mediation, his adoption of the iPad marked a decisive reconfiguration of the pictorial act. The screen, backlit and portable, does not replace the canvas – it reframes it. In tracing Hockney's engagement with mobile applications such as Brushes, this study exposes how digital tools can recover and intensify classical concerns: the registration of light, the elasticity of space, and the fluid syntax of color.

More than a case of technological appropriation, Hockney's method reveals a recursive interplay between materiality and dematerialization. His workflow – sketching in situ, revising in the studio, printing on archival paper – disrupts binaries like virtual/real or process/object. What emerges is not a hybrid aesthetic, but an unstable zone where the image resists closure. By mapping the tension between continuity and rupture in Hockney's digital practice, the paper proposes

a critical framework to address how digital images – far from dissolving artistic authorship – may instead intensify its visibility. The analysis situates Hockney not only within the lineage of British modernism or post-Impressionism, but within the speculative terrain where human agency, machine mediation, and visual experience intersect. This paper examines David Hockney's digital oeuvre not as a departure from traditional modes of image-making but as a radical extension of them. While Hockney's early experiments with Polaroids and photocopiers already implied an instinct for temporal layering and mechanical mediation, his adoption of the iPad

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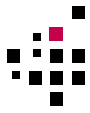
Towards Relationality: Sociocultural Embodiment and Interpersonal Interaction

Aven-Le Zhou

Hong Kong University of Science and Technology, Guangzhou / aven.le.zhou@gmail.com

This paper revisits the concept of interaction in interactive art through the lens of sociocultural embodiment and interpersonal dynamics, leaning toward the discourse of relationality. Drawing from phenomenology, post-phenomenology, and embodied interaction theory, the analytical focus shifts from human–machine interaction to artwork-mediated interactions among audience members. After reviewing existing taxonomies of interactive art, the study proposes the concept of audience–artwork–audience interaction to highlight the sociocultural dimensions of interactivity. A curated analysis of Ars Electronica award-winning works categorizes interaction into multi-audience and interpersonal forms. The findings reveal a paradigm shift from technological interactivity to sociocultural relationality, positioning interactive art as a medium of collective,

interpersonal, and potentially interspecific experience. The paper concludes by advocating for future interactive art to expand beyond binary interaction models, embracing broader modes of relational interactions.

**FRIDAY, NOVEMBER 28TH****SESSION 10: INTERFACES OF PLAY: GAMES, PUPPETRY, AND CRITICAL DESIGN****MODERATOR:** Tiago Martins, DSI - University of Minho**Glitch Art based on Digital Games**

Noriki Amano

Notre Dame Seishin University / amnrk@m.ndsu.ac.jp

We are exploring glitch art, which is based on the destructive manipulation of data. In this research, we propose a fusion of glitch art and digital games, with the goal of making the process of creating glitch art enjoyable as if it were a game. Specifically, we will make it possible to create glitch art using digital images through fighting and shooting games. These

digital games are thought to have a high affinity with glitch art in that they involve attacking and damaging opponents. This research sublimates the destructive act of meaningless data in the process of creating glitch art into gameplay, and also sublimates the monotonous attacking gameplay into art creation.

Experimental Machinimas: Avant-Garde and Hacktivism

Ejla Kovacevic

University Paris 8 Vincennes Saint-denis / ejla.kovacevic@gmail.com

Machinima or the form of 3-D game based filmmaking, has evolved in the last thirty years from the amateur activity in the enclosed community of hard-core gamers into a novel experimental film genre. Contrary to early machinima “fan mods” that were replicating the traditional narrative style of video games, the contemporary artists’ or experimental machinimas subvert the normative gameplay through diverse

hacking and editing techniques. Following the technocritical lineage of early avant-garde and experimental cinema of the 1960s and onwards, experimental machinima makers challenge the dominant techno-capitalist paradigm by exposing the glitches in its seamlessly optimal technological apparatus.

Machinima Artivista como Crítica Social: O Caso de ‘City Art – Mimo e a Cidade’

Miguel Carlos Lima, Mirian Nogueira Tavares, Luís Teixeira

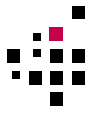
1 Universidade Aberta / migcarlima@gmail.com

2 CIAC - Universidade do Algarve / miriantavar@gmail.com

3 Universidade Católica Portugal - CITAR / lteixeira@ucp.pt

“City Art – Mimo e a Cidade” é um projeto de machinima que utiliza o motor de Grand Theft Auto V para explorar a condição do artista na sociedade contemporânea, adotando uma abordagem a/r/tográfica que integra prática artística, pesquisa teórica e crítica social. A narrativa simbólica de Mimo, um personagem marginalizado que transita entre a pureza criativa de uma ilha e a hostilidade de uma cidade hipercapitalista, critica a incomunicabilidade da arte autêntica em ecossistemas urbanos consumistas. Inspirado por Baudrillard (hiper-realidade), Bauman (modernidade líquida) e Debord (sociedade do espetáculo), o projeto transforma limitações técnicas do jogo (e.g.,

comportamentos de NPC, física irrealista) em metáforas visuais de alienação e resistência. A metodologia envolveu conceptualização narrativa, experimentação técnica com game assets, produção audiovisual e análise reflexiva via Diário Digital de Bordo. O machinima subverte a sátira violenta de GTA V, propondo um ativismo lúdico que humaniza o digital. Contribuindo para os campos de Digital Art Cultures e Media Art History, o projeto destaca o potencial do machinima como ferramenta de crítica social, desafiando a marginalização do artista e promovendo reflexões sobre autenticidade e vulnerabilidade na sociedade contemporânea.



Autonomous Puppetry - A Preliminary Study on the Puppeteer's Perspectives of Autonomy in Puppetry Practices

Miguel Albuquerque Araujo, Luís Leite, Rui Rodrigues

1 University of Porto - INESC TEC/ FEUP / up202110888@up.pt

2 ESMAD/P.PPORTO / luisleite@esmad.ipp.pt

3 INESC TEC/ FEUP / ruirodrig@fe.up.pt

This paper presents the preliminary findings from the initial research phase of a PhD project that explores the relationship between performative arts and technology. This art-based research critically examines concepts of autonomy, control, and theatricality in puppets empowered by autonomous systems. The project is organized into a three-phase methodological framework, of which the first phase involved conducting interviews with professional puppeteers from diverse cultural backgrounds. This methodological framework was designed to address the first of two research questions, which address the dynamics between the puppeteer and the puppet. After the

qualitative analysis of the interviews, the overall findings display not only the current use of technological elements and devices in puppetry practices but also the puppeteers' perspectives on enhancing the puppet autonomy for their performances. Moreover, the results reveal the artists' concerns about technological applicability, specifically about the role of human presence and its subsequent replacement, and the preservation of puppetry principles. Conclusively, these preliminary results present a framework where the intertwining between puppetry and robotics offers groundbreaking perspectives for mutual growth.

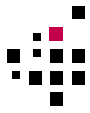
Drawing, painting, modelling, mobile phones and video in anamorphic construction. Analogue and digital processes in the metamorphosis of certain artistic forms

António Trindade

Faculdade de Belas Artes da Universidade de Lisboa / a.trindade@campus.ul.pt

This paper is developed in the context of our research project focused on the theme of anamorphosis and trompe l'oeil representations in specific architectural spaces, with the collaboration of our students from the Drawing degree and Master degree at the Faculty of Fine Arts of the University of Lisbon. The text covers three anamorphic constructions designed and articulated for three specific spaces, one realized individually and two carried out by two groups of students, all of them coordinated and guided by us. In these constructions, as we will see, digital and analogue mediums were used in parallel, where the respective productions involved geometric drawing, analogue drawing, digital drawing, 3D modelling and analogue painting. Digital videos and photographic records were made for the exhibition of these productions, with the aim of them being integrated, shared, disseminated and exhibited in other possible places. The illusion of the metamorphosis of forms in art can also be achieved by including the theme and techniques of anamorphosis and trompe l'oeil construction and there is no doubt that this fact may be very relevant for the creation of more complex future projects. In the first case, we observe the metamorphosis and anamorphosis of the illusory form of a red chair represented in a corner of an architectural space, where the dynamic of the observer leads to the form's legibility and illegibility, showing its metamorphosis, a bit like shapeless water that turns into an ice cube and vice versa. In another case, it is interesting to observe the playful game of a green square anamorphosis represented inside an inhabited house. In a third case, the project inspired by the painting and scenography of some of Eduard Hopper's works, but relocated in a new context, was completely realized and

designed using a computer software 3D modelling program, but with the aim of ultimately completing it in analogue form, using traditional paints and media for the purpose. This theme of anamorphosis is a field of perspective science that is very well displayed through video, because this digital medium allows us to stage and display in any exhibition space the constant mutations that the forms on display provide us with, as a kind of metamorphosis, where the forms and images of them are not exhausted in the change of according to the movement of the viewer and the digital camera that accompanies them. Thus, we show three examples where we verify that the subsequent use of the video tool enhances and emphasises the display of this type of images, which appears distorted and fragmented in countless observation points, where they are only restored from the original reference from a single point of view. The novelty in the articulation of this theme with digital and media arts also emerges here, especially in the first two examples presented: precisely in the application of video as a powerful tool for exhibiting and sharing these types of images, which can be created or constructed digitally or analogically. Another curious aspect of the video recordings of these anamorphic images was the use of this medium from our mobile phones, through the small digital cameras that are incorporated. Mobile phones were also used to project the images of the anamorphic references, using the small flashlights built into them, projecting the drawings made on acetate onto the projection surfaces of architectural spaces. And here we found another good use for mobile phones, although the light sources they emit, which are well polarised, have a limited range, but sufficient to obtain or



construct this type of images in some architectural or natural spaces. These student essays that we will see in the text, the first two produced at the beginning and end with the aid of mobile phones, for the projection of images and recording

of videos, can be a starting point for more complex future projects, using more sophisticated instruments with greater potential.

SESSION 11: AI, GENERATIVITY, PRACTICE

MODERATOR: Regilene Sarzi Ribeiro, Faculdade de Arquitetura, Artes e Comunicação - UNESP

The Plasticity of Generative Artificial Intelligence in Materialized Artistic Practice. Case study 'in/visibilidades no feminino 2.0'.

Célia Palma, Isabel Cristina Carvalho, Mirian Tavares

1 CIAC / celi.palma@gmail.com

2 CIAC-Uab / isabel.carvalho@uab.pt

3 CIAC / mtavares@ualg.pt

The article proposes a critical reflection on the convergence between art and technology, exploring how the plasticity of Generative Artificial Intelligence (GenAI) redefines emerging artistic practices. The study focuses on the transformations driven by the digital revolution, in particular by advances in Artificial Intelligence (AI), which metamorphose modes of expression, production and authorship, and simultaneously favor the subversion of hegemonic narratives and the affirmation of new aesthetics. The research analyses the application of GenAI in the materialization of artistic artefacts, with emphasis on the case study in/visibilidades no feminino 2.0, an experimental artefact that uses GenAI as a technique for the symbolic recombination of female

identity, supported by ethnographic imagery and processes of critical cultural mediation. The experimental artistic practice highlights the potential of GenAI as a tool for co-authorship, interdisciplinary collaboration and the extension of the work itself, by promoting critical dialogue about female empowerment and the reinscription of gender identity subjectivities in contemporary times. Inspired by Donna J. Haraway's post-humanist perspective (2022), which problematizes the relationship between technology, hybridity and identity construction in dialogue with the machine, proposing critical recombination as a strategy for collective construction.

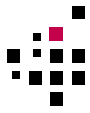
Practicing The Weird Third Thing: Machine Unlearning through Playful Subversion

Dominika Čupková

Academy of Fine Arts and Design Bratislava, Slovakia / dominika.cupkova@student.vsvu.sk

This paper proposes a participatory methodology for engaging with artificial intelligence beyond dominant narratives of optimization, control, and solutionism. It reframes machine unlearning, a technical process within AI research concerned with removing specific training data, as a conceptual and methodological provocation. What if unlearning could be extended to our sociotechnical imaginaries, values, and inherited biases? Drawing from over a dozen participatory workshops conducted across Europe between 2023 and 2025, this approach invites participants to co-create speculative prototypes through playful subversion, collective reflection, and embodied critique. The method is situated in the gray zone between techno-doomerism and

hype, a space where ambiguity, refusal, and care can become productive forces. Rather than seeking clarity or resolution, this methodology embraces contradiction and co-emergent knowledge. Framed by feminist epistemologies and inspired by traditions in critical design, cyberfeminism, and arts-based research, this paper positions unlearning as both a political and poetic gesture of unmaking dominant narratives, undoing habitual responses, and unsettling inherited structures. The insights surfaced through this process suggest new ways of relating to AI and technology, not by fixing broken systems, but by reimagining our entanglements with and within them.



Deus in Machina: A Conversational AI for Spiritual Experience

Philipp Haslbauer, Carolin Reichherzer, Marco Schmid, Aljosa Smolic

1 Lucerne University of Applied Sciences and Arts / philipp.haslbauer@hslu.ch

2 Lucerne University of Applied Sciences and Arts / carolin.reichherzer@hslu.ch

3 Katholische Kirche Luzern / marco.schmid@kathluzern.ch

4 Lucerne University of Applied Sciences and Arts / aljosa.smolic@hslu.ch

Generative Artificial Intelligence enables unprecedented forms of interaction with simulated personas through dynamic and unexpected conversations. In this paper, we present Deus in Machina, an installation that actualizes what theology previously considered only theoretically: a pastoral conversational AI. To maximize impact, the AI assumes the identity and likeness of Jesus Christ and was installed in the confessional booth of a Catholic church. We describe the technical and conceptual framework of the installation,

which features a generative audio-visual avatar generated in real-time and whose responses have been trained on biblical texts. The artwork explores critical questions about ethics, spirituality, humanity, and personhood in the era of AI. In addition, we present the preliminary results of a user study that showed favorable sentiments. This work offers insights into the design and reception of interactive AI installations exploring sensitive theological and human-AI interaction themes.

Whale Echo Dialogues: Simulating Acoustic Encounters Between Whales, Humans, and Machines

Yu Chia Kuo, Tak Cheung Hui

1 McGill University / yu.kuo@mail.mcgill.ca

2 Hong Kong Metropolitan University / tachui@hkmu.edu.hk

This paper presents Whale Echo Dialogues, an interactive installation that stages acoustic encounters between whales, humans, and machines. Merging underwater field recordings with gesture-driven synthesis, AI improvisation, and spatialized visuals, the work constructs a triadic soundscape

of synthetic codas, data-driven whale responses, and anthropogenic noise. Drawing on marine bioacoustics and rhythm-based grammars, the system invites participants into an asymmetric sonic ecology, where communication unfolds through mimicry, disruption, and partial control.

Rainbow Clash: Cyberperformance as an Interactive Artistic Experience

Rosimária Sapucaia, Rúben Ferreira, Vasco Yang Ye, Rodrigo Meireles, Guilherme Lopes, Fernando Faria Paulino

1 CIAC- Universidade da Maia / rrocha@umaia.pt

2 Instituto Politécnico da Maia / A046567@ipmaia.pt

3 Instituto Politécnico da Maia / A047527@ipmaia.pt

4 Instituto Politécnico da Maia / A046891@ipmaia.pt

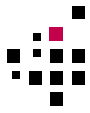
5 Instituto Politécnico da Maia / A046723@ipmaia.pt

6 CIAC- Universidade da Maia- UMAIA / fpaulino@umaia.pt

This paper presents Rainbow Clash, a digital artwork that reinterprets the classic ping pong game through an artistic and conceptual approach. Developed within the course unit Contemporary Art and Culture in the Digital Age, the project explores the intersection of gamification, participatory art, and symbolic visual language. Its main objective is to investigate how interactive digital environments can become spaces for aesthetic experience and personal expression, using gameplay as a medium for artistic creation. The methodology involved a practice-based process combining theoretical research on digital art with experimental game design. Throughout the development, students engaged in iterative prototyping, integrating dynamic visual effects, sound layers, and randomised mechanics to express the unpredictability of human experience. These components are designed not merely for entertainment, but to generate visual outputs that reflect the uniqueness and spontaneity of each interaction.

Rainbow Clash offers an immersive and reflective experience where players' movements directly shape the evolving visual landscape. By transforming competitive play into a co-creative act, the artwork challenges conventional boundaries between game and art, inviting viewers to consider the poetic potential of digital interactivity.

The project addresses key aspects such as conceptual framework, narrative intention, interaction design, and technical execution, situating itself within contemporary debates on digital aesthetics and the role of the user as co-author. The work ultimately reflects on how randomness, play, and real-time feedback can be mobilised as artistic strategies in the digital age.



Designing Awe in Interactive Digital Media

Assim Kalouaz, Jean-François Jego, Brendan Rooney, Pamela Gallagher

1 University College Dublin / assim.kalouaz@ucdconnect.ie

2 Université Paris 8 / jjego@univ-paris8.fr

3 University College Dublin / brendan.rooney@ucd.ie

4 Dublin City University / pamela.gallagher@dcu.ie

Awe, an emotion marked by perceived vastness and cognitive accommodation, can broaden perspective, dampen rumination, and support well-being. Although interactive artists often evoke awe intuitively, the underlying psychological mechanisms remain largely tacit, leaving designers without actionable guidance. Building on psychology research, we identify core cognitive processes and phenomena that are components of an awe experience in interactive digital media. We then present *Passenger*, an evidence-driven installation that operationalises these processes. Breath serves as the sole input, modulating concentric holographic

and panoramic visuals while a 4 Hz binaural audio track facilitates a more meditative brain activity. The piece scales from a fragile human silhouette to a rotating Earth to a wrap-around snapshot video of life around the world, progressively amplifying perceived vastness. We outline the system's design, methodology, and planned empirical evaluation using the AWE-S scale and cognitive-processing measures. By grounding creative design decisions in psychology research, this work could offer a reproducible framework for crafting awe-inspiring experiences and presents *Passenger* as both an artwork and an experimental stimulus for future psychology research.

SESSION 12: AI, DANCE, EMBODIMENT

MODERATOR: Madalena Oliveira, CECS - University of Minho

Understanding the Use of AI in Contemporary Dance: Perspectives from Practitioners

Nuno N. Correia, William Primett

1 Tallinn University / nuno@tlu.ee

2 Tallinn University / wprimett@tlu.ee

There is a growing interest in Artificial Intelligence (AI) across different creative fields, including dance. Given the challenges in implementing real-time AI solutions for dance, adoption of AI has been slower in dance compared to other creative fields. There is a lack of studies involving different dance practitioners (particularly dancers and media artists) regarding how they use AI in contemporary dance. This leads to our research question: how do dancers, and media artists working in dance, view AI and its use in contemporary

dance? To answer this, we conducted a focus group session with ten artists, who specialize in dance and media art, all of whom had experience using AI in contemporary dance. The thematic analysis of the focus group transcription revealed how dancers and media artists working in dance perceive AI and its applications in contemporary dance. Additionally, this analysis allowed us to identify recommendations for the use of AI in contemporary dance.

Designing for Kinaesthetic Empathy using Data-Driven Movement Matching

William Primett, Nuno N. Correia, Naoto Hieda, Andreia Matos

1 Tallinn University / wprimett@tlu.ee

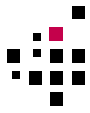
2 Tallinn University / nuno@tlu.ee

3 Tallinn University / naoto@tlu.ee

4 FCSH NOVA, Communication Sciences, Lisboa, Portugal / a2022143915@campus.fcsh.unl.pt

New methods for movement capture and modelling have inspired a shift in embodied interaction design. With Machine Learning tools at the forefront of movement sensing tasks, data modelling has been studied to support novel interaction paradigms informed by somatic and kinaesthetic practices. With a team of dance artists, we design an interactive system that dynamically captures, stores, and recalls movements. The system leverages human pose estimation and movement similarity matching, mediating between previously recorded

and real-time movement data, where matched movements are displayed as visual feedback. We outline the technical components of the system, and present a study with audience members to analyse the user experiences that transpire when situated as an interactive installation. We then propose design recommendations for mediating both interpersonal and intertemporal connections through movement matching and recall.



Choreographing Code with AVLMA: Laban Movement Analysis as Catalyst for Generative Art in an Experimental Audiovisual Pipeline Using MediaPipe

Rui Filipe Antunes, Cecília de Lima

1 Cicant - Universidade Lusófona / rui.antunes@ulusofona.pt

2 Escola Superior de Educação - Instituto Politécnico de Lisboa / ceciliadelima@gmail.com

This paper investigates the potential of real-time movement analysis as a driver for generative audiovisual performance. Premised on a generative logic of movement fueling transformation, we propose an experimental pipeline – AVLMA – that fuses Laban Movement Analysis (LMA) with real-time motion capture using MediaPipe. The system extracts spatial and qualitative features of bodily movement to modulate generative sound and visuals in a live performance context.

Key components include: particle systems that trace bodily landmarks with expressive variation; a swarm-based visual model employing boid dynamics to reflect motion complexity; cellular automata that evolve in response to

movement flow characteristics; and a FAUST-based audio engine responsive to LMA-derived parameters. These layers interconnect through a unified interface developed in Unity3D, forming a reactive, self-organizing audiovisual ecosystem.

Rather than functioning as background embellishment, the audiovisual system becomes an active agent in the experimental performance—interpreting and responding to the dancer’s evolving gestures. This study expands on the notion of choreography as computation and demonstrates how movement analysis can serve not only as input but as an aesthetic grammar for generative media.

Liminal Landscapes: Generative Art as a Technoshamanic Instrument in the Representation of Altered States of Consciousness

Emília Simão, Daniel Brandão, João Martinho Moura

1 CIAUD-UPT, Universidade Portucalense / emiliasimao@upt.pt

2 CECS - Universidade do Minho / danielbrandao@ics.uminho.pt

3 CECS - Universidade do Minho / joaomartinhomoura@gmail.com

This article proposes a theoretical and practical reflection on the capacity of generative audiovisual installations to represent and evoke altered states of consciousness (ASC), based on the artistic project Liminal Landscapes. In a historical moment marked by crises of meaning, technological alienation, and symbolic disintegration, a new sensibility emerges that seeks to resume ecstatic and spiritual experiences, now mediated by digital devices. By cross-referencing from the visionary arts, the anthropology of ritual, technoshamanism and media arts, it is argued that certain contemporary artistic creations can assume functions comparable to those of ancestral shamanic rituals, enabling the public to have immersive, introspective, and liminal experiences. The installation Liminal Landscapes

develops from organic and generative processes of image and sound, symbolically focusing on the element of water as a metaphor for the unconscious, crossing, and transformation. The circular structure of the work, combined with the enveloping sound and visual dissolution, invites the viewer to enter a meditative state, breaking with linear temporality and evoking ritual practices. Based on a practical research methodology, the project analyzes how the artistic gesture can function as a mediator between the visible and the invisible, the aesthetic and the spiritual. Art, in this context, is proposed as a technoshamanic instrument and a legitimate avenue for sensitive knowledge, capable of bridging the gap between the body, technology, landscape, and consciousness.

Immersive Meditation as Neuro-Art: Designing Sensorium’s Dome at the Intersection of HCI and Neuroaesthetics

Mehdi Mark Nazemi

Simon Fraser University / mna31@sfu.ca

This paper presents Sensorium, an immersive meditation dome that operates at the confluence of neuro-art and human-computer interaction (HCI). By orchestrating spatial audio, 360° projected visuals, dynamic lighting, and vibroacoustic feedback, Sensorium functions as an interactive art-based meditative space designed to modulate brain and body states, fostering deep relaxation and altered

aesthetic experiences. Drawing from neuroaesthetics and HCI frameworks such as presence, embodiment, and flow, we investigate how real-time multisensory environments actively influence contemplative states, emotional regulation and well-being.

Interwoven Realities: Exploring the Confluence of Embroidery and Biomaterials in Contemporary Art

Gabriela Farias

Benemerita Universidad Autonoma de Puebla / gabriela.farias@correo.buap.mx

This research examines a contemporary artwork that uniquely merges embroidery with innovative biomaterials, specifically bioplastics or biopolymers. In an era defined by the Anthropocene's ecological challenges and a growing imperative to decenter anthropocentric perspectives, this artistic practice serves as a compelling case study for investigating new materialities and relational aesthetics in art and design. Drawing on theoretical frameworks from posthumanism, new materialism, and ecosophy, the analysis delves into how the inherent properties and agential materiality of these bio-fabricated substances interact with the deliberate, intricate processes of embroidery. The study posits that this artistic fusion challenges conventional notions of artistic production, material

hierarchy, and sustainability by integrating living or bio-manufactured materials with a craft that historically emphasizes human touch and precision, the artwork fosters a deeper understanding of coexistence and radical intimacy between human and non-human entities. Furthermore, it redefines the role of the artist as a cultivator of processes and facilitator of encounter, moving beyond a product-oriented approach towards a fluid, dynamic, and ecologically conscious practice. This paper contributes to the emergent discourse on bioart and eco-design, demonstrating how artistic experimentation with biomaterials can reveal imperceptible ecological processes and provoke critical reflection on our profound interdependencies within an expanded, interconnected world.

SESSION 13: AUDIO-VISUAL, MUSIC, PERFORMANCE, MEDIA

MODERATOR: Nuno Correia, Nova University of Lisbon

BeComposer: A Computer System For Musical Composition And Performance In Real-Time

Emidio Buchinho

Escola da Artes da Universidade Católica do Porto / s-ejboliveira@ucp.pt

BeComposer is a software for real-time musical composition and performance, which allows for reading and generating sequences of materials in different types of musical notation, with the aim of structuring, mediating, and guiding the improvisation and performance of open-ended musical pieces in an interactive, collaborative, participatory, random, or controlled manner.

These practices can benefit from computational mediation as a driver of collaborative and improvisational processes, creating new possibilities for sound exploration.

As a dynamic system, BeComposer may play a structuring role in the relationships and ideas defined by the composer and performers. Its programming will be made available in open-source code so that users can continue to develop it.

Institute of Hyperconsumption -Traces of Excess

Ana Mariz, Diogo Aguiar, Fernando Carvalho, Kim da Motta

1 Faculty of Fine Arts of the University of Lisbon / aismariz@gmail.com

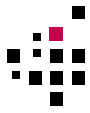
2 Faculty of Fine Arts of the University of Lisbon / diogosousa__@outlook.com

3 Faculty of Fine Arts of the University of Lisbon / fernandocarvalho1@edu.ulisboa.pt

4 Lucerne University of Applied Sciences and Arts, Switzerland, Faculty of Fine Arts of the University of Lisbon / kimdamotta@bluewin.ch

Dump-World is a two-channel installation by the Institute of Hyper-Consumption that examines how mass tourism and hyper-consumption reorganize Lisbon as a semiotic interface. Rather than representing the city from a distance, the project operates on its representational machinery: we collect metonymic urban signs, digitize them via photogrammetry, and recompose them into a walkable virtual layout (projection) paired with a rotating object catalogue (monitor). A spoken manifesto, printed on receipt paper and impaled after each line, functions as a performance of archiving, binding voice, image, and sound through timed cues so that critique is not

only said but performed. Methodologically, we articulate an archival-speculative approach, keeping glitches, seams, and occlusions visible to materialize what we call an aesthetic of algorithmic ruin, the costs of visibility in a platform-ready city. Situated against Lisbon's recent touristification, the work contributes a replicable collect-transform-trace method for media art research; a design grammar that couples embodied drift with fetishistic inspection; and a public-facing archival stance that makes procedures legible.



Technodiversity, performance, and technical mediation in four creative projects exploring interactive and visual resources

José Henrique Padovani, Caio Costa Campos

1 Universidade Federal de Minas Gerais / jhp@ufmg.br

2 UFMG / costacaiocampos@gmail.com

In this paper we explore the relationship between technology, performance, and creative invention drawing on concepts of cosmotechnics/technodiversity and theories of performance and technical mediation. By opposing the hegemonic, universalizing view of technology/culture and the conceptualization of performance as an entanglement of technical systems and embodied actions, we discuss

aspects of four artistic projects that integrate interactive and audiovisual elements. In conclusion, the paper asserts the importance for artists, particularly those in contexts considered peripheral, to resist the homogenizing force of a dominant “monotechnology”. It advocates for a critical and creative appropriation of technology that fosters situated and contextualized artistic invention.

Digital Weight: The Invisible Environmental Cost of Our Online Lives.

Jekaterina Kaizere

Independent Artist, Germany / katerina@kaizere.de

Digital Weight: The Invisible Environmental Cost of Our Online Lives is an immersive installation exploring the hidden material footprint of everyday digital actions. Despite the illusion of “cloud” immateriality, each click, query, and AI generation consumes energy, water, and raw materials. Drawing from the concept of hyperobjects and agential realism, the work reveals how the digital is deeply entangled

with physical infrastructures. The installation combines generative video and interactive tablet apps to visualize and personalize the environmental cost of digital culture. By translating emissions, energy use, and water consumption into relatable forms, Digital Weight invites viewers to confront the paradox of seemingly weightless technologies—and their planetary toll.

SESSION 14: ETHICS, SURVEILLANCE, MEMORY

MODERATOR: Alberto Sá, CECS - University of Minho

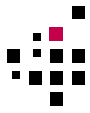
Espionage and Dataveillance Technologies: Perspectives on Sound Surveillance in Surveillance Art Practices

Lorena Alves

CITAR - Research Center for Science and Technology of the Arts / lalves@ucp.pt

Throughout this article, the field of surveillance art is taken as a starting point for reflecting on the relationship between humans and surveillance technologies. This is explored through the analysis of artworks ranging from the 1980s, starting with examples from Bruce Nauman and progressing toward more recent artistic explorations by Trevor Paglen and Kate Crawford. In a second section, the discussion turns to the domain of sound surveillance, examining artistic practices that incorporate sound surveillance technologies, such as the work of Kyle McDonald and Brian House, in order to articulate

the specific characteristics of sound-based surveillance in contrast to the predominantly vision-based approaches frequently employed in surveillance art. The concluding section addresses the context of espionage embedded in sound surveillance and its articulation within contemporary artistic practices. This section also seeks to develop a critical perspective on how surveillance technologies are increasingly driving invasive monitoring practices in order to feed artificial intelligence, machine learning, or deep learning systems, technologies to which we are currently adapting.



Reframing Surveillance: Generative AI and the Fictionalization of Machine Vision

Xuanyang Huang, Xiaoyun Zhong, Wei Huang, David Kei-Man Yip

1 The Hong Kong University of Science and Technology, Guangzhou / xhuang383@connect.hkust-gz.edu.cn

2 The Hong Kong University of Science and Technology, Guangzhou / xzhong204@connect.hkust-gz.edu.cn

3 Shanghai Institute of Visual Arts / 5020126@siva.edu.cn / 5020126@siva.edu.cn

4 The Hong Kong University of Science and Technology, Guangzhou / daveyip@hkust-gz.edu.cn

This paper explores how generative AI transforms surveillance imagery from functional documentation into narrative-driven visual content through two artistic projects: Synthetic Punctum and Mirage. We recontextualize surveillance footage into sites of imaginative fiction. Synthetic Punctum converts street surveillance into memory-like images evoking historical texture, while Mirage interpolates fictional sequences within real-world

surveillance streams across global cities. These projects reveal generative AI's capacity to function as a cultural mediator that restructures visual authority and challenges boundaries between reality and fiction. By embedding fictional potential within surveillance imagery's non-expressive nature, we demonstrate how AI transforms surveillance into creative expression while revealing the cultural dynamics embedded within machine vision systems.

Inclusive Soundscapes: systems for an accessible performance

Rui Travasso, André Conde, Marco Miranda

1 Polytechnic Institute of Beja / Rui.travasso@ipbeja.pt

2 CHAIA Centro de História de Arte e Investigação Artística; Universidade de Évora / andrefialhoconde@gmail.com

3 Department of Physics, Instituto Superior Técnico, University of Lisbon / marco.miranda@tecnico.ulisboa.pt

This article explores multimodal communication in inclusive performative contexts, focusing on the potential of interactive systems for children with Special Educational Needs and Disabilities (SEND). Drawing on a theoretical framework that integrates the concepts of multimodality, new media, and inclusive education, it analyses the implementation of an interactive sound performance in an educational setting involving functional diversity. The performance, based on digital and sensory technologies, aims to provide accessible, adaptable, and cognitively stimulating artistic experiences, promoting the active

participation of children with diverse sensory and motor profiles. The description of the performative system is accompanied by a critical reflection on the principles of accessibility, individualisation, and participation, grounded in direct observations and testimonials collected during its application. The results suggest that the combination of sound art, technology, and inclusive interactive design may represent a relevant pathway for the development of more equitable educational and performative practices. The article thus highlights the role of multimodality as a tool for artistic mediation and social inclusion.

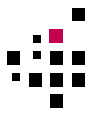
Protocol as Poetry: Case Study on Pak's Protocol Arts

Botao Amber Hu

University of Oxford / botao.hu@cs.ox.ac.uk

Protocol art emerges at the confluence of blockchain-based smart contracts and a century-long lineage of conceptual art, participatory art, and algorithmic generative art practices. Yet existing definitions—most notably Primavera De Filippi's "protocolism"—struggle to demarcate this nascent genre from other art forms in practice. Addressing this definition-to-practice gap, this paper offers a focused case study of pioneering protocol artworks by Pak, an early and influential pseudonymous protocol artist who treats smart contracts as medium and protocol participation as message. Tracing the evolution from early open-edition releases of *The Fungible* and the dynamic mechanics of *Merge* to the soul-bound messaging of *Censored* and the reflective absence of *Not Found*, we examine how Pak choreographs distributed agency across collectors and autonomous contracts, showing how programmable protocols become a social fabric in artistic meaning-making.

Through thematic analysis of Pak's works, we identify seven core characteristics that distinguish protocol art: (1) system-centric rather than object-centric composition, (2) autonomous governance for open-ended control, (3) distributed agency and communal authorship, (4) temporal dynamism and lifecycle aesthetics, (5) economic-driven engagement, (6) poetic message embedding in interaction rituals, and (7) interoperability enabling composability for emergence. We then discuss how these features set protocol art apart from adjacent artistic movements. By developing a theoretical framework grounded in Pak's practice, we contribute to the emerging literature on protocolism while offering design implications for artists shaping this evolving art form.



Mycortex: Exploring Non-Human Symbolic Communication through Art and Bioelectric Signals

Zhiqi Wang, Patrick Hartono

1 Goldsmiths, University of London / zwang035@gold.ac.uk

2 Goldsmiths, University of London, Department of Computing / hartono.patrick@gmail.com

Mycortex is an interactive art installation that juxtaposes fungal electrical signals with human brainwaves in a dynamic space, transforming them into non-narrative language and symbols. The project perceives language as a dynamic organism, reducing the life phenomena of humans and fungi to electrical signals and converting the waveforms of these signals into non-narrative acoustic language and organic symbol representations. It aims to construct a “third space” for interspecies language translation between humans

and non-humans from a non-anthropocentric perspective. Within this confined space, the electrical signals emitted by humans and mushrooms intertwine and influence each other, generating a new dynamic symbolic system. Through this approach, the project seeks to liberate humanity from its reliance on limitations and explore a perceptual dimension closer to the external, presenting the interaction and coexistence of human and non-human life forms through a non-anthropocentric narrative.

SESSION 15: DIGITAL STORYWORLDS, SEMIOTICS AND NARRATIVE DESIGN

MODERATOR: Daniel Brandão, CECS - University of Minho

From Motion to Meaning: Educational and Design Perspectives on Embodied Locomotion in Virtual Reality

Michael Bruner, Jinsil Hwaryoung Seo

1 Texas a&M / michael.bruner3@gmail.com

2 Texas a&m University / hwaryoung@tamu.edu

This paper examines embodied locomotion in virtual reality (VR) through student-designed projects in an educational course focused on interactive virtual environments. The students developed VR experiences inspired by real-world scenarios, incorporating physical movements for navigation, such as kayaking, biking, and climbing. Using Unreal Engine 5 and Oculus Meta Quest 2, these projects aimed to foster empathy and immersion by aligning physical actions with virtual interactions. The study highlights both the potential and challenges of embodied locomotion in VR. While students demonstrated creativity and innovation, they faced

significant technical and design barriers, including hardware limitations, interaction inconsistencies, and performance optimization issues. Feedback from participants and student reflections provided valuable insights into these challenges. Based on these findings, the paper proposes strategies to simplify interaction mechanisms, optimize development for target hardware, and incorporate iterative user testing. The study underscores the value of educational frameworks that equip novice developers to create seamless, engaging, and empathy-driven VR experiences.

Digital Media Art and Archaeologies of the Invisible: The Case of Mãe Soberana in Dialogue with Zielinski

Andreia Pintassilgo, Ana Soares, Maria Guerreiro

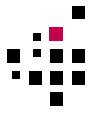
1 Universidade do Algarve / andreiapintassilgo@hotmail.com

2 Universidade do Algarve / asoares@ualg.pt

3 Universidade do Algarve / mcguerreiro@ualg.pt

Digital media art, as an artistic expression emerging from technological evolution and new communication media, symbolizes a revolution in how cultural experiences are transmitted and experienced. Within this context, the case of the “Mãe Soberana – (Sovereign Mother)” manifestation falls under the field of digital media art as a practice that fuses art, technology, and intangible heritage. Using resources like augmented reality, QR codes, and mobile apps such as Artivive, it offers a reinterpretation of the cult of

Mãe Soberana in the city of Loulé through immersive and interactive narratives. This approach combines sensory and cognitive elements to activate collective memory, promoting the convergence of past and present, physical and virtual. This proposal resonates with Siegfried Zielinski’s Media Archaeology diagram by adopting a non-linear reading of media history and valuing the multiplicity of trajectories, layers, and technologies. The Mãe Soberana cult is reinterpreted as a hybrid territory of artistic expression,



where digital technologies are not just mediation tools but devices of creation, evocation, and participation. Through the themes of Digital Art Communities, Digital Technologies and Making, Digital Art Territories, Digital Storytelling, and Media Art History, the project stands out as an expanded practice of digital media art. The local community plays an active role in constructing the narratives; sacred territories become digitally expanded spaces; and intangible heritage gains new forms of

expression and circulation.

The work proposes an archaeology of the invisible by revealing symbolic, historical, and emotional layers of the cult. By integrating participatory models and transmedia narratives, it contributes to disseminating contemporary practices of digital media art in an aesthetic, critical, and technological experience grounded in a plural vision of cultural mediation.

Semiotic Sculpting: Modeling and Meaning- Making with Second-Order Semiology

Yuchen Li, Aven-Le Zhou

1 Royal College of Art / lyc20001117@gmail.com

2 Hong Kong University of Science and Technology, Guangzhou / aven.le.zhou@gmail.com

This paper introduces the Semiotic Sculpting Model, a structured approach to digital sculpture creation based on Roland Barthes's \textit{Second-Order Semiological System}. In response to the prevalent focus on technical accuracy in current 3D practices, the model emphasizes the integration of meaning into visual form. It divides the creative process into two stages: Visual Reconstruction and Meaning-Making. Through two practice-based case studies, i.e., a mythical

beast embodying intrinsic traits and a culturally coded dragon character, this paper demonstrates how symbolic elements can be methodically embedded into sculptural forms. The results indicate that this approach enhances the construction of layered meaning and symbolic depth within digital sculpture, offering a practical pathway for integrating semiotic thinking into 3D creative workflows.

The Mouth and You: a walk through Beckett's Not I in Virtual Reality

Syeda Nikhat Mohsin, Néill O'Dwyer, Nicholas Johnson

1 Trinity College Dublin / mohsins@tcd.ie

2 Trinity College Dublin / odwyernc@tcd.ie

3 Trinity College Dublin / johnson@tcd.ie

This paper documents the technical process behind adapting Samuel Beckett's Not I into a virtual reality experience. It features Unreal Engine, MetaHuman Animator and facial capture techniques. Originally staged with only a disembodied mouth visible in darkness, this immersive

encounter recreates the experience for a technologically engaged audience. This article discusses the pipeline and conceptual opportunities of translating canonical theatre into extended reality, offering a new perspective on Beckett's emphasis on disembodiment, presence and the voice.

AI.R Taletorium: Preserving Culture Through AI Storytelling

Predrag K. Nikolic

Swimburne University of Technology / predragknikolic@gmail.com

AI.R Taletorium is an interactive art platform where children become co-authors and illustrators of original fairy tales in collaboration with artificial intelligence. The system integrates 2D image generation using state-of-the-art diffusion models, enhancing narrative visualization and accessibility. Children influence storylines through drawings and interactive prompts, which are interpreted by AI and woven into an unfolding narrative. By combining AI-generated composition, a responsive drawing interface, and personalized character generation, the project creates a collaborative art environment that fosters creativity, inclusivity, and engagement. The next phase of AI.R

Taletorium focuses on deepening interaction with children through storytelling rooted in diverse cultural and ethnic traditions. By incorporating conceptual themes and folklore from multiple heritage sources, the platform aims to preserve and transmit cultural knowledge to younger generations in playful, immersive formats. The artwork explores the intersection of artificial intelligence, interaction design, and visual storytelling to offer a dynamic, adaptive experience that supports imaginative expression while revitalizing intangible heritage in the digital age.

SESSION 16: HCI, INTERACTION DESIGN, THEORY

MODERATOR: Helena Pires, CECS - University of Minho

Affordances of Behavior for Interactive Digital Narratives: A Poetics for Interaction

Ana Monteiro, Miguel Carvalhais, Rui Torres

1 i2ads/Faculdade de Engenharia da Universidade do Porto / catarina02d@gmail.com

2 i2ads/Faculdade de Belas Artes da Universidade do Porto / mcarvalhais@fba.up.pt

3 ICNOVA & University of Fernando Pessoa / rtorres@ufp.edu.pt

The aesthetics in Interactive Digital Narratives (IDNs) are narrowly understood following a conventional path that does not consider the intricate interplay of feedback loops. Being artifacts that influence the trajectory of a reader through the work, and how meaning emerges from that, we look at the aesthetic of IDNs managed at the code level. Adopting a systems-thinking approach, where behavior is a central part of it in its presented form, we identify and define the components of the system. Following that, we analyze how these components operate together as an integrated whole, while remaining sensitive to environmental changes. Through this lens, we call for an aesthetics of behavior that is contextually situated with tools, spaces, and bodies, and that is distributed between the system, narrativity, and reader.

Claiming that these three elements, such as any element of the material and social world, are actors, we develop a model of the affordances of behavior that can help us to structure patterns that establish spaces of meaning tuned during the execution and contact with an IDN. Exploring and presenting SCHEMA (Will Freudenheim, 2023) as a case study, we propose that this model of the affordances of behavior can be used as a theoretical tool for developing IDNs. Finally, our analysis contributes to an understanding of how IDNs function as dynamic, meaning-making systems that are shaped by and shape the interactions between their components, readers, and the broader computational environment.

EDNI. Rehearsing the Embodied Co-Creation of Emerging Trans-Spatio-Temporalities

Helena Pires, Né Barros, João Martinho Moura

1 CECS - Universidade do Minho / hpires@ics.uminho.pt

2 Balletatro, ESAP, Instituto de Filosofia, Universidade do Porto, Porto, Portugal / nebarros@gmail.com

3 CECS / Universidade do Minho / joaomartinhomoura@gmail.com

The discussion about the irreversible effects of AI across various areas of knowledge and human action, envisioned through either catastrophic or salvific models, has critically captured the attention of public opinion and all kinds of social, political, and economic agents. Less frequent are approaches aimed at exploring other modes of interaction and co-creation, capable of enhancing renewed, sensitive experiences of the fluid and emergent character (Hayles, 1999) of the (dis)limits that both tension and approximate the physicality of bodies and technological virtuality. The organic and dynamic nature of human ontology imbues the relationship with the non-human environment with a complexity that is not entirely predictable. To question and explain the implications or potentialities of such a liminal relationship, to understand the transformations at the level of perception (Merleau-Ponty, 1945, 1964/2000; Don Ihde, 2002) of what redesigns and co-constitutes us, is fundamental.

EDNI (Dense Space Not Unlimited, from Portuguese “Espaço denso não ilimitado”) is a transdisciplinary project that

brings together media arts, performance/dance, music, and scenography as a means of exploring the embodiment of renewed space-temporalities. Provoking the notions of linear time that impregnated the disciplinary paradigm of utopian modernity (Heidegger, 1927/2018; Elias, 1998), in this scientific-artistic experimentation, time, unexpectedly, goes back, not as a repetition of the same, but as a memory that permanently (re)actualizes and destabilizes the meaning of the past-present-future. Through AI, reciprocity effects are co-created between the physical body and the virtuality, challenging the most widely held preconceived notions about the possibilities, both human and machinic, of co-construction. Seeking to free themselves from the shackles of a nostalgic feeling or prisoners of the false dichotomy between utopia and dystopia (or heterotopia), the authors of this proposal propose to contribute to broadening the vision of the role of AI in the redesign of feeling (Pires, Martinho Moura, Barros, and Ferreira-Lopes, 2021), of moving, and of being-with.

EROS, CONSTRUCTOR OF IDENTITIES. Objectual Videomapping Project

Shaula Ortega Rodríguez

Universidad de Jaén, España / shaulaescueladearte@gmail.com

This article provides an analytical and methodological approach to the artistic research project, “Eros, Constructor of Identities,” an object-based videomapping installation that operates as an aesthetic-methodological apparatus for critical praxis and media literacy. The work is founded upon the articulation of Martin Heidegger’s critique of technology (the Gestell), Zygmunt Bauman’s sociology of identity dissolution (Liquid Modernity), and Byung-Chul Han’s philosophy of overexposure (The Transparency Society). It is postulated that the intrinsic collision between the ephemeral digital image and the Crystal Body promotes an act of phenomenological resistance that interrupts the ontological reduction of Being to Bestand (standing-reserve of resources). The analysis focuses on unveiling how the instrumentalization of desire and the mandate of compulsory gender performance are co-opted by the logic of performance. Through the study of the technical processes of mapping and masking, the article establishes that these function as operative metaphors for the calibration and psychological editing of the self in the face of the algorithmic gaze. Finally, it is argued that the aesthetic

shock generated by the work is a mechanism to restore meditative reflection (Sorge) and project the urgent need for a sustainable psychosocial ecology against the precarity and agony of Eros in the Non-Thing society. Although there is no distinctive header, this is the abstract. This submission template allows authors to submit their papers for review to an ACM Conference or Journal without any output design specifications incorporated at this point in the process. The ACM manuscript template is a single column document that allows authors to type their content into the pre-existing set of paragraph formatting styles applied to the sample placeholder text here. Throughout the document you will find further instructions on how to format your text. If your conference’s review process will be double-blind: The submitted document should not include author information and should not include acknowledgments, citations or discussion of related work that would make the authorship apparent. Submissions containing author identifying information may be subject to rejection without review. Upon acceptance, the author and affiliation information must be added to your paper.

Three Languages of Artistic Research – Precious Multitudes as a Performative Documentation of Research in New Media Art

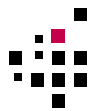
Charlotte Triebus, Chris Geiger

¹ University of Applied Sciences Düsseldorf / charlotte.triebus@hs-duesseldorf.de

² Mirevi-lab, University of Applied Sciences Düsseldorf / geiger@hs-duesseldorf.de

This work explores the innovative intersection of artistic practice and academic communication, focusing on the use of augmented reality (AR) comics as documentation of artistic research. It builds upon the premise that traditional scholarly formats often fail to encapsulate the nuanced, multifaceted nature of the research process, particularly within the context of Human-Computer Interaction (HCI) and artistic methodologies. By employing a case study of the performance “Precious Camouflage,” the paper illustrates how a non-linear narrative integrated with hand-drawn illustrations can convey “felt knowledge” that transcends written documentation. Comics inherently accommodate complex narratives that represent multiple perspectives and temporalities, thus serving as a potent medium for

expressing such intricate experiences. Furthermore, the work suggests that AR does not merely enhance visual storytelling; it enables “thick documentation” that encapsulates the contradictions and ongoing uncertainties inherent to artistic research. This aligns with prior discussions on somaesthetic design, which prioritize embodied experiences in HCI research. Last, the proposed methodology seeks to contribute a new dimension to the conversation on how artistic research can coexist alongside traditional academic outputs. It underscores the importance of documentation as an active participant in the research journey, rather than an afterthought, presenting an approach that values the unfinished and evolving nature of artistic research.

**SESSION 17: DATA, VISUALIZATION, WEB, PARAMETRIC****MODERATOR:** Adérito Fernandes-Marcos, University of Saint Joseph in Macau**Fav(panopt)icon Project**

Byeongwon Ha

University of South Carolina / bh33@mailbox.sc.edu

In the digital age, users often hastily agree to lengthy cookie policies without understanding the implications for their online privacy. Fav(panopt)icon Project explores this phenomenon by using favicons, website icons, to symbolize user agreement with cookie policies. When users consent to these policies within the project, their internet activities are visually displayed in real-time on a large LED panel, transcending language barriers. This unique perspective, reminiscent of an omni-panopticon, allows other visitors who

view the LED panel to witness and reflect upon the online behaviors of consenting users. After grasping the interface of Fav(panopt)icon Project, visitors can utilize the favicon image to showcase their everyday Internet activity, akin to how Pop artist Andy Warhol incorporated his daily life into his artwork. In essence, Fav(panopt)icon Project provides visitors with an ambivalent environment to interact with favicon images while contemplating the significance of the panopticon in the context of the Internet.

“UrDiSynth42” e a tecelagem figital

Nelson Caldeira, Pedro Veiga, João Cordeiro

1 CIAC – Centro de Investigação em Artes e Comunicação / caldeira.nelson@gmail.com

2 Centro de Investigação em Artes e Comunicação, Universidade Aberta, Lisboa, Portugal / pedro.veiga@uab.pt

3 CHAIA - Centro de História de Arte e Investigação Artística / Departamento de Artes Visuais e Multimédi / joao.cordeiro@uevora.pt

O presente estudo aborda o desafio contemporâneo da arte digital na preservação da autenticidade cultural, procurando conciliar a inovação tecnológica com a continuidade histórica. Defende-se que a virtualização, compreendida como um deslocamento identitário para potenciais expressivos, constitui um fenómeno cultural contínuo, presente muito antes da era digital. Utilizando as Tapeçarias de Portalegre como caso paradigmático, este trabalho identifica cinco dimensões históricas de transcodificação; dimensional, material, técnica, temporal e interpretativa, que antecipam métodos da arte digital contemporânea. Apresenta-se o conceito de arte figital, que estabelece uma gramática híbrida temporal, combinando os ritmos dos

ambientes online e offline. Neste contexto, o framework “UrDiSynth42” propõe uma arquitetura hierárquica de quatro camadas, Percepção, Cognição, Expressão e Coordenação; que operacionaliza a virtualização histórica através de visão por computador, machine learning e síntese generativa. A utilização estratégica de tecnologias como Docker assegura a preservação digital e cultural. O estudo confirma que a virtualização histórica não representa uma rutura tecnológica, mas sim uma evolução, oferecendo uma base robusta para futuras práticas artísticas que visem respeitar as tradições culturais, ao mesmo tempo que exploram novas possibilidades tecnológicas.

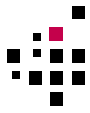
Make America Great Again and Again. Voices Across the World

Byeongwon Ha

University of South Carolina / bh33@mailbox.sc.edu

Make America Great Again and Again (MAGAA) appropriates the exclusive political slogan “Make America Great Again” to create an inclusive phenomenon. MAGAA invites visitors beyond the U.S. border to an exhibition space, transforming it into a playable public sphere where they can manipulate or maintain a large American flag displayed on a white wall, accompanied by the Star-Spangled Banner song. MAGAA is an ever-evolving open work, as it circulates at different

exhibition events. Rather than providing a definitive answer to the questionable slogan “Make American Great Again,” this project offers a playable public platform for participants to discuss diverse perspectives on the concept of “make America great again.” This process naturally visualizes a temporal collage, transitioning from the American flag image to a multi-screen representation created by participants via YouTube.



Artwork: Quantum Photosynthesis

Juliana K. Vizzotto, Fernando F. Codevilla

1 Universidade Federal de Santa Maria / juvizzotto@gmail.com

2 Universidade Federal de Santa Maria / fernando.codevilla@ufsm.br

This paper presents a conceptual and technical information of an art work that explores parallels between photosynthesis in plants and quantum computing. Taking into account aspects from biology, quantum physics, and computer science, the study investigates how energy transfer mechanisms in photosynthesis can be metaphorically related to quantum logic operations in computing.

This research begins with the use of cellular automata programmed with quantum logic to generate sound and visual representations of complex interactions that simulate

certain characteristics of photosynthesis observed through quantum logic. By integrating these computational models into video art, the project creates an audiovisual experience that embodies the probabilistic and emergent behaviors observed in both living systems and quantum algorithms. The research demonstrates how artistic practice can serve as a transdisciplinary methodology to reflect and visualize the connections between natural and artificial processes, offering new perspectives on the dynamics of information, uncertainty, and complexity in contemporary art and science.

From Sunlight to Qubits: Visualizing Analogies between Photosynthesis and Quantum Information Systems

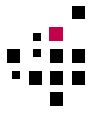
Juliana K. Vizzotto, Fernando F. Codevilla

1 Universidade Federal de Santa Maria / juvizzotto@gmail.com

2 Universidade Federal de Santa Maria / fernando.codevilla@ufsm.br

This paper explores the intersection between art, science, and technology by examining the conceptual parallels between photosynthesis in plants and quantum computing. Taking into account aspects from biology, quantum physics, and computer science, the study investigates how energy transfer mechanisms in photosynthesis can be metaphorically related to quantum logic operations in computing. This research begins with the use of cellular automata governed by intuitionistic fuzzy logic and then programmed with quantum logic to generate visual representations of complex interactions that simulate

certain characteristics of photosynthesis observed through quantum logic. By integrating these computational models into generative video art, the project creates an audiovisual experience that embodies the probabilistic and emergent behaviors observed in both living systems and quantum algorithms. The research demonstrates how artistic practice can serve as a transdisciplinary methodology to reflect and visualize the connections between natural and artificial processes, offering new perspectives on the dynamics of information, uncertainty, and complexity in contemporary art and science.

**SESSION 18: NATURE, SUSTAINABILITY, HUMAN-NATURE RELATIONS****MODERATOR:** Philipp Haslbauer, Lucerne University of Applied Sciences and Arts**From Synergy to Method: A Case Study of Transdisciplinary SciArt Practices Between Art and Neuroscience**

Rocio Garcia-Robles, Juan Nicolás Pérez Rodríguez

1 Universidad de Sevilla / rociogarcia@us.es

2 Universidad de Sevilla / nicolasperez@us.es

This paper introduces the “(to be completed)” project and its participatory method called “eco-SciArt”, as well as its Art & Neuroscience edition. By integrating scientific insights on brain plasticity, epigenetics, and neurotechnology with participatory art and AI, the project exemplifies ASTS (Art, Science, Technology, and Society) practices. It promotes transdisciplinary thinking, emotional engagement, and public reflection. We focus the analysis on one case

study to analyze how that artwork fulfills key objectives related to scientific communication, artistic innovation, and social engagement. It concludes by discussing the mutual enrichment of neuroscience and art, emphasizing the emergence of metaphysical and ethical questions that arise when scientific knowledge is translated into sensory, relational and speculative experiences.

The Ironic Machine

Jorge Forero Rodríguez, Mónica Mendes, Gilberto Bernardes

1 Faculdade de Engenharia da Universidade do Porto. INESC-TEC. ITI-LARSys / jforero@ludique.ci

2 Iti / Larsys Faculdade de Belas-Artes, Universidade de Lisboa / monicamendes@edu.ulisboa.pt

3 Faculdade de Engenharia da Universidade do Porto. INESC-TEC. / gba@fe.up.pt

This study investigates how affective descriptors influence the generation of virtual environments. Specifically, we explore the notion of audiovisual ironic spaces by deliberately mismatching emotional profiles in music and visual content. Using AI-based tools for text-to-image and text-to-music generation, we built virtual scenes guided by prompts derived from a statistical analysis of emotional features such as rhythm, timbre, color, and texture, found in “happy/joy” and “angry” tagged samples from two independent datasets. The results reveal distinct acoustic and visual patterns associated with each emotion. Happy music exhibits higher onset rates, greater pitch variation,

and more dynamic spectral profiles, while angry music shows higher spectral centroids and more stable dissonance. Visually, joyful images are brighter and more symmetrical, whereas angry images present darker hues and greater textural complexity. Mid-level prompts based on perceptual descriptors generated the most coherent and emotionally expressive content. These were used to construct contrasting ironic environments: Sarcastic (joyful visuals + angry music) and Kind Ironic (angry visuals + happy music), alongside their sincere emotional counterparts. This work introduces a new framework for affective computing and speculative virtual design grounded in emotional dissonance.

3DAroma: Spice-oil-saturated Tangible Installation with Auditory Interaction as Embodied Reminiscence of Exploring Nomadic Memory and Identity

Joshua Nijiati Alimujiang, Jacques Ziyu Wang

1 Hong Kong University of Science and Technology, Guangzhou / anijiati587@connect.hkust-gz.edu.cn

2 Chinese University of Hong Kong / 1155237100@link.cuhk.edu.hk

Memory, particularly in the context of diaspora and nomadic experiences, often exists as a fluid and multifaceted construct, challenging conventional archival methods. The ephemeral nature of personal and collective reminiscences necessitates innovative approaches to capture, preserve, and transmit these deeply embedded cultural narratives. This paper discusses 3DAroma and its formation, a practice-based artistic research that synthesizes olfactory, auditory, tactile, and optic modalities to transform diasporic memories into an immersive physical archive. Building upon earlier explorations of nomadic legacies, identity, and

consciousness through interviews, workshops, and literature investigation, 3DAroma employs specific culturally resonant spices, such as cinnamon, cumin, and cardamom, extracted into oils that permeate algorithmically AI-generated and machine-printed pattern sculptures. These sculptures, derived from traditional nomadic Etas fabrics, serve as tangible symbols of Nomadism, inviting participants into a synesthetic recollection of heritage. Research contributions manifest twofold: (1) the experimentation of olfactory-tactile interfaces with spice-media as nomadic archives for culturally coded remembrance; (2) the exploration

of meditative art workshops for bridging individual and communal memory retrieval. 3DAroma ultimately discovers

nomadism not as loss but as fluid decomposition, where scent becomes record, and touch transforms into testimony.

Aquaterrestrial Recolonization: Mission Borneo

Predrag K. Nikolic

Swinburne University of Technology (Sarawak Campus) / predragknikolic@gmail.com

Aquaterrestrial Recolonization: Mission Borneo is an ongoing interactive art and AI project designed to address the global crisis of coral reef degradation through immersive, data-driven storytelling. Originally developed in The Bahamas and now adapted to Borneo, the project is conceived as a translocal and site-responsive platform—one that can be deployed in any marine region experiencing ecological stress. Its goal is to raise awareness of oceanic collapse, stimulate emotional engagement, and promote environmentally conscious behavior by connecting audiences with the realities of coral loss and the potential for regeneration. Rather than idealized visualizations, the project centers on the reconstruction of damaged or lost

underwater environments. Using AI trained on environmental data, coral morphology, and documented reef degradation, the installation generates speculative but grounded renderings of revitalized reef ecosystems. These are presented in an immersive audiovisual space that invites public interaction and climate reflection. By integrating scientific modeling, artistic interpretation, and AI storytelling, Aquaterrestrial Recolonization serves as both a speculative archive and a call to action. It contributes to marine bioheritage preservation and fosters a global dialogue on sustainability—adaptable to multiple geographies, cultures, and communities facing the urgent consequences of climate change.

Searching for the *Everywhen* on the Basis of the Findings of the Artistic Research Project *skin flats*

Alexandra Reill

Kanonmedia. Conceptual Media Developments / alexandra.reill@kanonmedia.com

Skin flats is a series of 60 image montages consisting of a series of self-portraits – close-ups, taken randomly in chronological order, showing the skin of the artist Alexandra Reill from an abstracting perspective ...; images that ultimately transform into movement and, in combination with the installation of the video loop skin flats 0 and its parts I, II, and III, may culminate in a meditative experience ... The images forming skin flats (2022/2024) represent a quasi self-generated meditative line of self-viewing perspective, created through Subconscious Image Writing. Although the image montages are self-portraits, they ultimately see themselves as “empty” works, elaborated from an aspiration of the artist to let “non-individual”, “non-designed” works emerge

that has accompanied her since 2019 at the latest – in a questioning of the artist as “genius”. Probably not least due to the unexpected occurrence of a life-threatening illness and equally threatening accompanying circumstances, the theme of sensing “emptiness between things” changed from one day to the next into sensing “fullness in emptiness”. The dramaturgical framework for this development of the video loops (2023-2024) was now formed by the five phases of dealing with suffering according to Kübler-Ross. As part of the Artistic Research project skin flats the author wrote the paper Searching for the *Everywhen* on the Basis of the Findings of the Artistic Research Project skin flats in 2024.

Washing my Hands

Byeongwon Ha

University of South Carolina / bh33@mailbox.sc.edu

Washing My Hands brings natural materials from the nearest sea into the exhibition space, creating an authentic, interactive environment. The installation features four small containers filled with seawater and various materials, including small rocks, pebbles, sand, or just seawater. In a dark room, each container is connected to L-shaped LED light panels. The LED lights initially display gray tones, evoking the reflection of ocean ripples. When visitors wash their hands, their movements generate sound through a contact microphone placed under the container. In response,

the LED lights shift to gradient blue hues, mimicking both sound meter and ocean wave movements. When visitors stop interacting with the water, the sound fades, and the LED lights gradually return to their original gray gradient. This project provides a synesthetic experience, encouraging visitors to reflect on the ocean as a metaphorical space for healing and a joyful, interactive environment where sound and light merge.