



interfacecultures

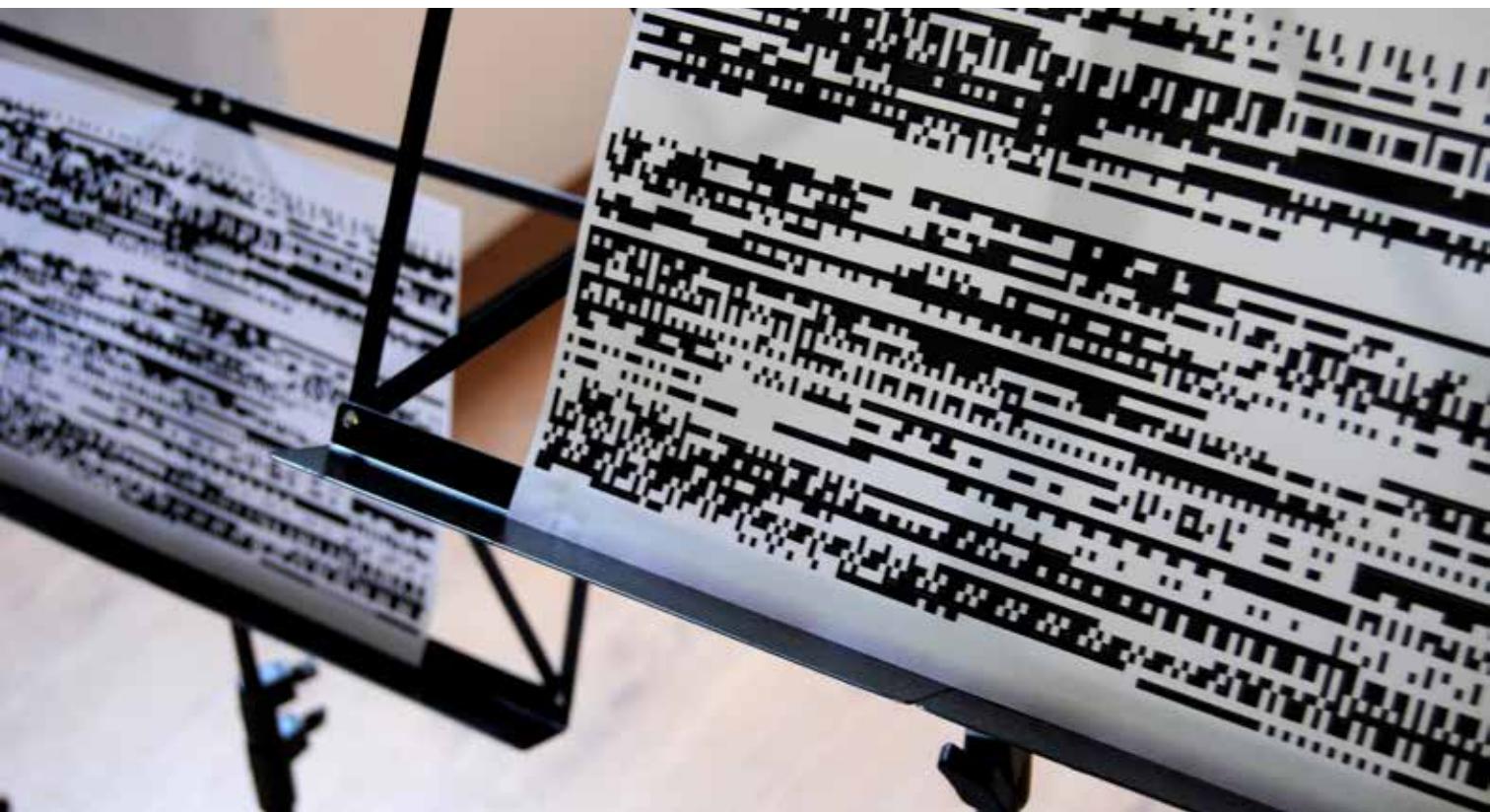
# interface cultures

master program

kunst  
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linz

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institute of media studies



ARNULF RAINER FOR DIGITAL PERFORMERS CONCERT VERSION  
ALESSIO CHIERICO

## WHERE MEDIA ART FINDS NOURISHMENT

With its vibrant art scene, the Upper Austrian capital is the ideal breeding ground for media art. At the University of Art and Design Linz, world-class artists cross paths and come together alongside promising newcomers in a potent mix. As clear proof of this, the city of Linz is a designated UNESCO City of Media Arts. This achievement is the comprehensive result of numerous creative and innovative minds working consistently together over many years. A continual contribution to this is made by the Interface Cultures Master's programme at the University of Art and Design Linz. A mixture of high artistic and scientific standards, alongside a strong application-oriented focus coupled with comprehensive interdisciplinarity, makes this degree programme both fascinating and highly valuable.

These strengths are further enhanced by a wide variety of collaborations - including Ars Electronica Linz. Together, students and teachers drive forward innovative creative and societal developments. Ambitious new contributors are always needed. We look forward to meeting you - at the University of Art and Design Linz.

Brigitte Hütter  
Rector

## ENGAGING WITH FUTURE QUESTIONS

From the very beginning Ars Electronica Linz has not only been an annual exhibition platform and a springboard for young artists, but above all a research and discussion venue that can be regularly visited and used during the academic year via the Ars Electronica Archive and the Ars Electronica Center. The Interface Cultures Master programme was launched in 2004 and has been feeding directly into this network ever since. We urgently need young artists and designers who can rethink the interweaving of art, technology and society, and we need public institutions that can help them.

Gerfried Stocker  
Co-CEO/Artistic Director, Ars Electronica

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# interface cultures

In 2004, the **Interface Cultures** Master programme was founded by Christa Sommerer (AT) and Laurent Mignonneau (FR / AT) at the University of Art and Design Linz. The programme is named after Steven Johnson's book, *Interface Culture*. The plural in 'Interface Cultures' was chosen to highlight the multi-layered diversity of approaches and cultures that surround people working at the myriad intersections of the digital world. Recognising the importance of this openness, Sommerer and Mignonneau - international pioneers of interactive art - developed this idea into an educational programme for the art university context. In 2020, Manuela Naveau (AT) joined the team with an additional focus on Critical Data, to interrogate the opportunities for participation behind complex computer systems that are based on data, algorithms and artificial intelligence.

The Interface Cultures Master study programme teaches at the confluence of media / digital art, interactive art, interface design and participatory practices at the intersection of art, technology and artistic research. Objectives of the master's programme are:

- > Education in interactive art and interface technologies
- > Research on cultural aspects of interface and interaction design
- > Focus on critical data, sustainable IT and the environmental issues of digitalisation
- > Transmission of conceptual as well as practical prototype development

Since 2004 Interface Cultures has promoted the international visibility of its students through the annual presentation of their projects at the world-famous Ars Electronica Festival, a festival for art, technology and society, alongside other international exhibitions and symposia. In recognition of Linz's excellence in this field, the city was accepted into the UNESCO Creative Cities Network and named a UNESCO City of Media Arts in 2014.

[interface.ufg.at](http://interface.ufg.at)  
[interface.ufg.at/blog](http://interface.ufg.at/blog)

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**FACULTY,  
LECTURERS  
& COURSES**

## Univ.-Prof. Dr. Christa Sommerer



Faculty Member

Christa Sommerer is an internationally renowned media artist, researcher and pioneer of interactive art. She worked at the IAMAS Academy in Gifu, Japan, the ATR Research Labs in Kyoto, Japan, the MIT CAVS in Cambridge US and the NCSA

in Champaign Urbana, IL, USA. In 2004 together with Laurent Mignonneau she set up the department for Interface Cultures in Linz, Austria. Sommerer has held visiting professor positions at CAFA Central Academy of Fine Arts Beijing, Tsukuba University and Aalborg University, Denmark. Together with Laurent Mignonneau she has created around 40 interactive artworks, shown in around 350 international exhibitions.

They have received numerous awards.

[www.interface.ufg.ac.at/christa-laurent](http://www.interface.ufg.ac.at/christa-laurent)

## Master Colloquium I and II Final Master Colloquium

In this course students learn how to develop their master thesis. This includes finding a suitable topic, developing a narrative, looking for an artistic / scientific research question, developing a structure, a table of contents, a bibliography and an artistic / scientific practice. Regular presentations within the class and with the chosen thesis supervisor help with the progress of the thesis. Topics can be freely chosen and correspond to the students' interests and artistic / scientific practice.

Based on individual thesis development, which takes place in close cooperation with the main thesis supervisor, the Final Master Colloquium will prepare the student for their final master defense.

## Interface Cultures I, II, III, IV, and V

Informally called the "Interface Cultures Meetings", this series of courses occupies a central role within the study program. In dedicated monthly meetings all students from all semesters are encouraged to present their own works-in-development and receive feedback from the faculty team and their colleagues. The discussion takes place as a group conversation, in the spirit of constructive criticism and mutual support.

The overall goal is to discuss ideas, trends, look for eventual collaborations, group projects or to prepare group shows and additional events. The presentations also serve as the basis for finding suitable projects that can be presented at the annual Ars Electronica exhibition and the *Sankt Interface event*. Regular attendance and project updates are mandatory.

**"Media technologies have become ubiquitous, they now enter almost all aspects of our lives. As artists and creative practitioners we shape these technologies and develop prototypes and applications that have been unheard of. At Interface Cultures we investigate new human-human, human-environment and human-data interactions with a constructive and critical impetus."**

## Univ.-Prof. Dr. Laurent Mignonneau



Laurent Mignonneau is a French artist working in media arts since 1992. He has a background in experimental music performance, video art, electronics and programming stretching back to the early eighties. Together with Christa

Sommerer, he has created numerous pioneering interactive artworks, winning major awards in the field of Media Arts and exhibiting worldwide. Mignonneau was an artist in residence at the Institute of New Media in Frankfurt, an artist at the NCSA in Illinois, USA, an artist and researcher at ATR in Japan, an associate professor at IAMAS in Japan and a visiting professor at Paris 8 University in Paris, France. He is a professor and co-founder of the Interface Cultures department.

[www.interface.ufg.ac.at/christa-laurent](http://www.interface.ufg.ac.at/christa-laurent)

Faculty Member

## Sensors and Microcontrollers (WS) Advanced Microcontrollers (SS)

This course provides an introduction to building electronic interfaces. Students learn how to use microcontrollers, sensors and actuators to build their own interfaces and circuits from the ground up. Utilizing a hands-on approach, students learn how to filter and use data captured from the physical environment. Within this course a common understanding of coding and electronics is established through solving problems and learning coding techniques. A theoretical background is also provided with additional example applications from the media art field. In the summer semester a special course topic is chosen, ranging from EMG devices to laser displays, analog modular synthesizers to tiny robots and solar insects. Special focus is placed on gaining advanced knowledge of microcontrollers and electronics, which further supports the students in the development of their personal interactive projects.

**“The field of Media Art is constantly expanding, introducing many new aspects of technology into the art context. Interface Cultures offers an environment that provides the necessary practice and theoretical reflection for personal achievements in this artistic field.”**



Manuela Naveau, PhD is an Austrian researcher and curator at Ars Electronica, where she developed the Ars Electronica Export department. She is the university professor for Critical Data at the Interface Cultures department. She

has held teaching positions at the Paris Lodron University in Salzburg, the Technical University in Vienna and the Danube University Krems. Her book *Crowd and Art - Kunst und Partizipation im Internet* was published in 2017. It is based on her dissertation, for which she received the Award of Excellence from the Austrian Federal Ministry of Science, Research and Economy in 2016.

[manuelanaveau.at](mailto:manuelanaveau.at)

[crowdandart.at](http://crowdandart.at)

“Interface Cultures is not only a place where young artists can theoretically and practically engage with the world of media and digital art. What is truly extraordinary about Interface Cultures is the transcendence of our digital reality that it offers: the critical reflection of technology via technology, and the communication of these processes to an audience through artistic means.”

The relationship between artists / creators and the digital world is of great value for the study, critical mediation and use of data, data processing systems and related knowledge. Not only can they make visible how systems of digitisation work, but also how they do not. By analysing artistic works at the intersection of digital art, big data and machine learning alongside ethics, philosophy and political / social commitments, we critically investigate the place society and its environment can take in relation to the latest technological developments. Critical Data questions the handling of technology and explores artistic worlds in the digital cosmos operating between promise, manipulation and conspiracy. There is a research based excursion, supported by scientific partners and partner institutions, that lays the groundwork for the practical work of the summer semester.

## Interactive Art I and II

In this course we explore and discuss developments concerning interfaces, interactive art, interaction design and processes of computer-based participation. Students will gain a chronological insight into the development of interactive art, we will discuss examples of artists who have shaped this field and together we will analyse the latest developments. Whether installation, intervention or performance, network project, telematic work or hybrid art form, whether virtual, augmented or mixed reality, robotics, software or app... we will analyse and question the interfaces and their interactive possibilities. This exploration is underpinned through theoretical reflection with reference to the relevant writings and theories of knowledge in this area.

## Ars Electronica Project

Since its founding in 2004, the Interface Cultures department regularly presents a selection of the latest student projects at the well-known annual Ars Electronica Festival. Students are asked to submit their project and in a group effort, the faculty together with the students develops an exhibition concept, title, work plan, production plan and the realization of the event. Besides the exhibition, other formats such as concerts, performances, talks, 'work in progress' presentations and experimental formats can be proposed and developed. Exhibition flyers, documentation and PR are also covered by the whole team. The presentations at Ars Electronica promote the students' work within a professional international media art network.

## Univ.-Ass. Fabricio Lamoncha, MA



Faculty Member

Fabricio Lamoncha is an artist, designer and researcher from Spain. He works as a technical assistant and lecturer at Interface Cultures. He is a member of the UCLA's Art|Sci Center, and is also a regular instructor at the Sci|Art

Lab+Studio summer program, Los Angeles. Since 2018 he has been pursuing his PhD at the Kunstuniversität Linz under the supervision of Prof. Christa Sommerer. His research and practice explore the entanglements of media ecology and bioethics. His work has been exhibited internationally and awarded with the Art and Artificial Life International Award Vida14.

[fabriciolamoncha.com](http://fabriciolamoncha.com)

*“The diverse curriculum and interdisciplinary nature of the Interface Cultures department, faculty members and students, provides an ideal environment to reflect critically on the political nature of art and technology. Rather than a place to specialize, it is a place to open up to a new variety of fields and practices. It is also a lot of fun and a challenging experience.”*

## Labor Interface Cultures I and II

The winter semester's Labor I focuses on 'materials': students are introduced to the general use of the prototyping workshop at Interface Cultures as well as to the general infrastructure available for their project development inside and outside of the University. They are also provided with a general background on materials, processes and semiotics in contemporary art and design practices.

During the summer semester's Labor II we go one step further, with a deeper focus on 'subjects': biology/chemistry lab protocols, artistic / scientific / interspecies collaborations, bioart articulations and definitions, bioethics, biosemiotics and media ecology. Students are introduced to a diversity of subjects, as well as to specific infrastructure and experts in fields such as: biology, botany, genetics, biotechnology, chemistry and material science.



Faculty Member

University Assistant Davide Bevilacqua is a media artist and curator interested in network infrastructures, technological activism and curatorial and artistic research about the framework condition in which artistic practice is presented

and transmitted to the audience. Current topics of his research are internet sustainability and the environmental impact of technologies, digital greenwashing practices and platform capitalism. He is part of the artist collective quj0ch0, collaborates with the sound art gallery bb15 and works with servus.at. He organizes the community festival AMRO Art Meets Radical Openness.

[davidebevilacqua.com](http://davidebevilacqua.com)

*“Interface Cultures is a space in which artistic practices dealing with media and technologies meet. These are conceptual and physical tools to shape the growing landscape of media. A focus on alternatives, speculative and independent media structures provides nourishment to a healthy critical approach toward the future of art and technology.”*

The aim of this class is to analyze current models of sustainability within different IT branches and to explore their potential and limits through artistic practice.

In the last years much has been said about the environmental impact of the internet, yet there are still many gray areas that obfuscate both the processes of material construction and the disposal of technologies, alongside the almost endless variation within general use of devices, systems and platforms. “Sustainability” is a very popular yet undefined term, whose meaning should more often be considered in the specific context in which it is used.

The various forms of sustainability – environmental, economic and social – accompanied by the domains of sustainable development – cultural, technological and political – can be used as tools to unpack and re-discuss the contemporary media landscape, as well as to discover areas and methods of intervention for artistic practice.

## Student Project Support

Alongside their artistic practice, artists often have to be the accountants, writers, curators, managers and producers of themselves. How to combine all of this? What are the skills needed? Student Project Support (Art Presentation, Funding & Documentation) focuses on the strategies and formats needed to present artistic production through text and images, as well as a practice-oriented approach towards art bureaucracies: from project presentation to documentation, with an introduction to finances and funding for artistic production. The class is structured to provide guidance to students taking part in the Interface Cultures exhibition at the Ars Electronica Festival. It also provides general support regarding applications for open calls, producing effective artwork presentations, descriptive texts and funding applications.

## Gertrude Hörlesberger



Faculty Member

Gertrude Hörlesberger has been at the University of Art and Design Linz since 2002, covering various administrative and managerial tasks. As part of the office of the vice-rectors she organized University events

and exhibitions such as Best Off. In 2005 she became administrator of the new Ludwig Boltzmann Institut Media.Art.Research, a cooperation between Kunstuniversität Linz, Ars Electronica Linz and Lentos Kunstmuseum. Since 2010 she has been working at Interface Cultures, where she manages the organization of didactic activities such as curating the courses timetable, organizing guest-lectures and taking care of administrative matters for the projects and the infrastructure of the department. From 2010 to 2015 she was also the administrator of the Working Group for Equal Opportunities (AKG).

“Knowledge transfer, creativity, discourse and critical reflection at a high level, alongside an intensive exchange between students and teachers and students among themselves, that is what Interface Cultures is all about. The Interface Cultures programme seems to intensively activate the enormous potential that lies in people with often quite different professional backgrounds and interests, as well as a broad diversity of nationalities and ages.”

## Gebhard Sengmüller



Gebhard Sengmüller is an artist working in the field of media technology. Based in Vienna, Austria, since 1992 he has developed projects and installations focussing on the deep background of electronic media, retroactively

changing the timeline of media history, dissecting and recombining media technologies, and constructing autogenerative systems and networks. His work has been shown extensively in Europe, the Americas and Asia in venues such as Ars Electronica, Linz, the Venice Biennale, the Institute of Contemporary Arts, London, Postmasters Gallery, NYC, the Museum of Contemporary Photography, Chicago, the microwave Festival, Hong Kong and the InterCommunication Center, Tokyo.

[gebseng.com](http://gebseng.com)

*"A computer which only passively is on museum display is not in any "medium" state; it is much more of a challenge to display its time-critical and bit-critical data processing - maybe by transposing them into acoustic frequencies which can be literally "understood" by the human ear - a sonic computer museology."*

*(Wolfgang Ernst, Signals and Symbols: A Media-Archaeological Approach to 'Textuality', 2012)*

## Media Archeology I and II

In contrast to a more conventional media history lecture, this class is orientated towards exploring a more hidden media history. This secret or forgotten history deals with parallel, presumably lost, little-noticed, perhaps even fictive strands in the development of today's media apparatuses. In this time of rapid development of new technologies that are becoming obsolete faster and faster, it is interesting to create archaeologies of individual media.

In this theoretical and practical course we will look at how artists use artefacts of media machines and media technologies in their practice, how this developed into previously unplanned hybrids, opened unknown back doors and often turned original flaws into strengths. We discuss how art practitioners, who are critically questioning progress per se by deliberately using outdated generations of hardware and software, prefer low-tech not only for aesthetic reasons but also for the economic implications involved.

*"A piano score, even a 19th century one, is software when its instruction code can be executed by a human pianist as well as on a player piano." (Florian Cramer, CONCEPTS, NOTATIONS, SOFTWARE, ART, 2002)*

## Klaus Obermaier



For three decades, media-artist, director, choreographer and composer Klaus Obermaier has been creating innovative works with new media in the performing arts, music and installation.

Klaus Obermaier is a visiting professor at the University IUAV, Venice (IT) and at Babes-Bolyai University in Cluj-Napoca (RO), teaching interactive arts and performance. He taught as an adjunct professor for composition at the Webster University, Vienna and held courses for choreography and new media at the Accademia Nazionale di Danza di Roma. From 2016 to 2018 he was co-director of the Master for Advanced Interaction at IAAC (Institut for Advanced Architecture).

[exile.at](http://exile.at)

*“My work very much focuses on new artistic forms of human interaction with digital systems. The comprehensibility of the interaction, i.e. an inviting, understandable interface, is of fundamental importance for both viewers and users.”*

## Stage-based Interaction

The goal of this workshop is to create interactive situations for stage and installation using basic computer vision technologies such as frame difference and blob tracking, as well as the analysis of sonic input.

The focus of this course however, is not on the technologies themselves but rather on their creative use. To stimulate this, alongside a practical element, part of the workshop is dedicated to the discussion of conceptual aspects of project development such as strategies for the integration of different media, reflection on various kinds of viewpoints (camera view – choreographer’s / director’s view – audience view) and levels of integration (triggering – controlling – communication), real-time generated content, and an understanding of the digital system as a performance partner.

## Leonhard Lass



Leonhard Lass (1978) is a multidisciplinary artist, designer and lecturer based in Vienna. His artistic focus is on the computational construction of poetic systems that enable the unexpected, by means of cross-modal emergence. As

part of the art group *Depart* he employs generative techniques to develop hyperpoetic, audiovisual experiences that are grounded in formally rigorous and profound aesthetics. As a designer he specialises in user interfaces with dense, dynamic data visualisation demands - ranging from consumer facing web applications to sophisticated HMIs for the process industries and safety critical environments. He has lectured on topics including data mapping, generative art, UI/UX design and audiovisual art.

[depart.at](http://depart.at)

## Mapping the Data - Dataism (Interface and Interaction Design)

This course explores data as an artistic material for poetic and/or critical engagement. It focuses on transformative processes and strategies for elaborate data manifestations and opens up a broad discussion around the underlying complexities, including: interfaces and interaction, data literacy, culture, privacy, ethics, aesthetics, infrastructures, societal implications and data's paradoxical ontologies. To establish a fundamental understanding of effective data mapping we will study core data visualisation methods, aiming towards a potential semiology of data representation. Additionally, based on the discussion of students' work, we will examine contemporary and historic data art and design practices. Students will develop a concise vocabulary for critical engagement and will be enabled to integrate rigorous data-driven strategies into their own artistic practice.



César Escudero Andaluz is an artist focused on digital culture, interface criticism and the social and political effects of this. César's research addresses issues such as dataveillance, algorithm governance, tactical

interfaces and critical mining. His practice combines interfaces, electronics, interactive installations and robotics with critical design, media archaeology and the digital humanities. His artworks have been shown in international electronic-art events, museums and conferences including Ars Electronica, Linz (AT) / ZKM Center for Art and Media (DE) / WRO Media Art Biennale (PL) / Science Gallery, Detroit (US) / Hangar (ES) / Aksioma (SI) / Drugo more (HR) / Chronus Art Center (CN) / AMRO Art Meets Radical Openness (AT) / ISEA, International Symposium of Electronic Art.

[escuderoandaluz.com](http://escuderoandaluz.com)

*“From my perspective as a master's student and subsequent PhD, I have always appreciated IC's constant promotion of artistic practice, its encouragement of research and its support for the development of new artworks capable of exploring the social, political and environmental implications of new technologies”*

Post-media practice is a discipline focused on observation, experience and experimentation. It combines network cultural expressions with analog technologies in order to create new objects and immaterialities. Its main objective is to understand and to reflect the production of new aesthetics after / within the so-called digital revolution.

This course will introduce theoretical and practical contributions in the fields of Interface Criticism and Post Internet Art by analysing artistic and cultural interventions in contemporary media contexts, as well as through the exploration of the social implications of networked practices, new digital materiality and the underlying algorithms. A combination of network and platform critique, digital humanities and software studies will reinforce the participants artistic practice and stimulate reflections based upon a critical approach to the interface itself.

## Daniel Hug



Dr. Daniel Hug is a sound and interaction designer who explores the world of sound through art, design, theoretical inquiry and applied research. As co-head of the Sound Design Master program at Zurich University of the Arts, interna-

tional lecturer for sound studies and sound design, member of the steering committee of the conference Audio Mostly and the ABA International Sound Awards jury, his aim is to contribute to the investigation and creation of the “sounds of tomorrow”.

[hear.me/interact.wordpress.com](http://hear.me/interact.wordpress.com)

*“Interface Cultures as concept and educational claim shifts the emphasis of understanding the interface between human and non-human actors away from questions of ergonomics, usability and technical solutions toward the question of culture. This view of the interface as cultural artifact and cultural technology is an essential contribution to the contemporary disciplines of design, art and media.”*

## Auditory Interfaces

Increasingly, physical artifacts of everyday use are endowed with information and communication technologies. These interactive commodities provide exciting new possibilities for sonic interaction design. On the one hand, in the interaction with such artifacts, the visual modality is often restricted by their size or peripheral use. On the other hand, artifacts are physical objects with a complex, narrative and performative identity, which calls for the use of sound beyond simple beeps.

In this workshop we will explore interactions involving artifacts, their sounds and the possible relationships between them. We will investigate narrative sound design strategies inspired by highly evolved fields such as film and game sound design, learning to use sound to provide interpretative clues and to leverage the expressive potential of sound. These strategies will be applied to develop scenarios and improvisational prototypes for sounding interactive commodities.

## Thomas Hoch



Dr. Thomas Hoch is a key researcher at the Software Competence Center, Hagenberg, GmbH for data science. His PhD, from the Berlin Institute of Technology, focused on biologically inspired artificial neurons. He is now working on

the development of concepts and methods that allow for a tight collaboration between humans and artificial intelligence. He has a strong interest in machine creativity and its reshaping of artistic practice.

**“The exploration of the creative possibilities of Artificial Intelligence in art is led by artists who feel at home in technology and the art world. Interface Cultures perfectly represents the intersection of these two worlds.”**

## Interface Technologies (AI for Artists)

In the last several years, the field of artificial intelligence (AI) has made tremendous progress in terms of technologies and frameworks, making the use of such tools for creative projects much more simple. As a result, the number of AI related artworks produced and featured in venues such as Ars Electronica Linz, ZKM, Transmediale, etc, has increased exponentially. These works question the assumption that creativity, identity, intelligence and agency are purely human qualities. In this lecture, students will explore the current state of neural network systems and machine learning algorithms that can be used for artistic practice. They will experiment with some of the more popular methods to investigate what creativity means from the machine’s point of view and will explore existing tools and frameworks from their own artistic positions.

## Tiago Martins



Dr. Tiago Martins is a creative technologist working at the intersection of art, technology, interface design and game design. Coming from a background in Computer Science applied to interactive media research (FCT-UNL in Lisbon,

Portugal), Tiago further expanded his perspectives by doing his PhD at Interface Cultures. Since then Tiago has worked and collaborated with individuals and institutions from all over the world in different environments: professional, educational, artistic, research and start-up. He has a passion for developing embodied user experiences with playful aspects using smart wearables, tangible interfaces and augmented reality.

*“At IC you meet people from all around the world and take a critical hands-on approach towards different aspects of technology and society, which leads to new skills and perspectives. Personally, my experiences at IC broadened my horizons and led to work opportunities as a developer, researcher and creative.”*

## Mobile Interaction

Smartphones have become the de facto personal computer. They are kept within reach, store much of our personal data, allow nearly ubiquitous access to online services and different forms of communication between spatially distant individuals. Additionally, they provide diverse forms of input and output - from location and movement to sound and vibration.

In this course students will learn how to design interactive mobile applications through rapid prototyping. In the first part of the course they will be introduced to the rich variety of modern smartphone features and how these can be programmed using scripting. Combining diverse functions into a single application enables coders to create new types of mobile interfaces and applications for human computer interaction, but also to innovative novel mobile interactive services. In the second part of the course students will be encouraged to build mobile applications based on their own ideas, participating in the entire design process from concept to completion.

## Andreas Weixler



Andreas Weixler (\*1963, Graz, Austria) specialises in contemporary composition and computer music. He teaches as a lecturer at Interface Cultures, as an associate university professor and director of the Computer

Music Studio at the Anton Bruckner Private University and as a senior lecturer at the University of Music and Performing Arts, Vienna. His prolific output of concepts, compositions and media works have been shown in conferences and exhibitions across Europe, Asia, North and South America.

[avant.mur.at](http://avant.mur.at)

### Audio-Visual Interaction I

In this lecture students will explore the interactive possibilities of midi, audio and video data and the use of algorithms within graphical programming environments - a category of programming languages specially designed for media artists and musicians. By connecting computational objects representing programming routines, artists can design the flow of data, its processing and the relative outputs. These languages are particularly useful for artistic production due to their rapid prototyping qualities, the possibility of live data manipulation and their vast interconnectivity with external interfaces and devices.

*“Interaction with computer systems is an everyday task nowadays, no matter for work, entertainment or cultural activities. To create a successful interaction, a playful artistic approach shows new ways and new why’s. Interface Cultures provides a wonderful environment to develop a collective know-how between students, teachers and guest artists.”*

## Sebastian Neitsch



Sebastian Neitsch is a Berlin based artist, using various media from time-based performance and installation to classical sculpture and two-dimensional works. Since 2013 he has been part of the artist group Quadrature. With

his partner Juliane Götz, their artistic explorations gravitate towards data, physical experiments and the use of new technologies as a means to read and write today's realities. Their works have been shown internationally and they have been awarded various residencies and grants for their artistic practice.

[quadrature.co](http://quadrature.co)

**“With new technologies emerging, corporations and states are now able to interpret and draw conclusions from an ever growing abundance of data with unseen speed and accuracy. This endangers society and the individual to lose oversight and control over the methods of creating information and writing realities. Only a democratic approach of transparency and understanding of these technologies helps to empower public actors like artists to gain back some of the authority to understand and change our world.”**

## Audio-Visual Interaction II (VVVV Gamma)

Data used to be something professions of all fields could not get enough of. Today, the abundance of existing data and the availability of easy to use consumer products and digital tools that gather even more real-time data have changed this dramatically. The main problem is no longer the lack of data but rather how to process and use it in meaningful ways.

This course will give an overview of existing projects that use different kinds of online, offline, real-time and near real-time data. Students will then learn how to implement these techniques into their own projects using the visual programming environments VVVV and V4 Gamma, with a mutual focus on technical solutions, aesthetics and concepts. The topics will vary depending upon individual interests, the content of other courses and pre-existing student projects. Based on the level of skill students bring to the course, the use of microcontrollers, parsing external online data and controlling non-screen based outputs like DMX-devices, mechanics or LEDs can also be part of the course.

## Mika Satomi



Mika Satomi is a designer and artist working in the field of e-Textiles, Interaction Design and Physical Computing. Her work explores how we relate to technology and what we really want from it. She often collaborates with musicians and

performers to create technology embedded costumes and interactive systems. Since 2006 Mika has collaborated with Hannah Perner-Wilson, forming the art collective duo KOBAKANT to create artistic projects in the field of e-Textiles and Wearable Technology Art. She is a co-author of the e-Textile online database *How To Get What You Want*. She currently lives and works in Berlin.

[nerding.at](http://nerding.at)

[kobakant.at](http://kobakant.at)

[howtogetwhatyouwant.at](http://howtogetwhatyouwant.at)

**“To be able to critically discuss, one needs to be able to see and to understand what is inside the blackbox of technology. Even seemingly complex high-technology is made of components that are understandable. The understanding becomes a tool for one to think and communicate critically.”**

## Fashionable Technologies I

This course investigates the relationship between technology, fashion, craftsmanship and design. Contextual analysis, developed in group projects, reveals and defines aspects of communication, aesthetics and functionality with a specific focus on the idea of dynamic surfaces and soft circuitry.

The course starts with an introductory lecture: a theoretical discourse on the current development of e-textile projects in the art and design context, its early developments and its present state. The main part of the course consists of hands-on workshops focusing on experimenting and exploring the sensing of body movements using e-textiles sensors, designing interaction with soft interfaces and developing prototypes. Students will participate in the entire design process from concept to completion. The course aims to provide insight into the challenges and possibilities of designing wearable technologies and to share the basic skills required to work with them.

## Ricardo O’Nascimento



Ricardo O’Nascimento is a fusionist designer, writer and lecturer working at the intersection of art, design, science and technology. He investigates body-environment relations focused on interface development for wearable

devices, interactive installations and soft systems. He is interested in a multidisciplinary approach to create experiences that challenge and enhance human perception. He is the founder of POPKALAB, an experimental fashion-tech research studio specializing in prototype development. Currently he is a PhD candidate at Loughborough University (UK). He is investigating how we make sense of bodily sensations evoked by wearable haptic artefacts from a postphenomenological point of view.

[onascimento.com](http://onascimento.com)

*“I believe that understanding how we relate to new technologies is essential for designing meaningful practices in HCI. This understanding involves dealing with a massive amount of data produced by an ever-growing variety of sensors that surround us ubiquitously. Data per se means nothing if we are not able to organize and interpret it critically. Interface Cultures is where you can learn how to do that in your own unique way.”*

## Fashionable Technologies II

Fashionable Technologies investigates the relationship between technology, fashion, science and design. The course builds on the foundation knowledge developed by students in Interface Cultures. Contextual analysis, developed in group projects, reveals and defines aspects of communication, aesthetics and functionality with a specific focus on the idea of the garment as interface. The first part of the class involves a theoretical discourse on the next generation of wearables, its history, its evolution and its present state. The second part of the class focuses on developing a project, focusing on textiles, wearables and technology. Students will participate in the entire design process from concept to completion. Through this process, students will gain an understanding of the challenges and possibilities of designing technologies for the body.

## Michaela Ortner



Michaela Ortner has worked at the University of Art and Design Linz since 2008. Having worked as University Assistant for Interface Cultures until 2019, she now coordinates several international programs of events for the International

Office. She continues to work for IC, running a lecture series which focuses on a broader sense of welcome culture. Her aim is to create a network between the international students and the local cultural collectives. Due to her roles on the State Cultural Advisory Board and the Society of Cultural Policy for Upper Austria, Michaela is very well informed about local arts and cultural initiatives.

### Learning Linz I and II

Learning Linz gives students the opportunity to connect to the local art scene. In the form of short excursions, students get to know the people behind various collectives, sometimes in combination with a guest lecture or small workshop. Through these visits, participants learn more about the activities, strategies and development plans of the different initiatives. This course is an efficient and immersive way to get directly involved with the cultural organisations of the city. In some cases, individual collaborations have directly resulted from these visits.

“The Interface Cultures master program is socio-politically relevant with regards to its critical approach to technology and the trends of our time. It is important that students receive theoretical and practical know-how with which they can express themselves regarding topics of their time.”

## Julian Stadon



Julian Stadon is an artist, curator and academic, working in the fields of Augmentation Aesthetics, Embodied Bio-Digital Ecosystems and Post-Anthropocenic Design. Studying marine biology, fine arts and electronic art, Stadon's re-

search focuses on how art can generate better understandings of post-bio-digital convergence, identity and representation.

Stadon is the director of marart.org and TeleAgriCulture, has lectured in over twenty countries, teaching digital art, design, fashion and games - currently at the Kunstuniversität Linz and FH-Salzburg. He publishes, exhibits and performs regularly and is currently developing The Biome Buffet, a project at the intersection of sustainable agricultures and food production, using both traditional / indigenous and innovative technological approaches.

[julianstadon.net](http://julianstadon.net)

**"In an increasingly bio-digitally convergent, networked world, it is important to examine the ways in which we design, collect, analyse and present data. All data is subjective and particularly within machine learning systems, it is vital that we understand where control exists and what impacts this can have on society."**

## Games Workshop I

Games Workshop aims at both conveying an introduction to game studies as well as applied game design, thus combining theory and practice. Students are expected to challenge basic game study notions, including rules, the magic circle, game versus play, or Ludus and Paidia, with the development of experimental games. Essential ideas concerning game studies, game cultures, and game design are presented and discussed. Particular weight is given to value transfer as well as current game directions that stretch to the outside of the game virtuality.

Over the course of Games Workshop I, well-known games are examined for underlying design principles, stellar examples of game art are introduced and debated to support inspiration. As a large variety of created game projects is hoped for, game development is not restricted to particular genres or media: results may range from board and card games to digital games, from zero to multi-player games, from casual to time consuming games.

## Sam Bunn



Sam Bunn is a Linz based British artist, independent scholar and educator, working between installation, performance and film. He studied Mathematics and Philosophy at Sheffield University, UK, before turning to art. Fine art

studies at Sheffield Hallam and the Chelsea School of Art and Design, London prepared him for a series of residencies in mainland Europe where he developed an interest in playful interaction. He finished his masters at Interface Cultures in 2018. His current practice involves creating visions of positive, shared futures. Bunn teaches at the University of Art and Design and at the PHDL, Linz.

[sambunn.net](http://sambunn.net)

*“As a student, Interface Cultures provided me with a huge range of skills and perspectives on current media developments. Its open, intensive course of study allowed me to navigate my own path through the broader field of art whilst developing a sensibility for new media that will continue to nourish my practice for years to come.”*

## Journal Club (in collaboration with César Escudero Andaluz)

Journal Club is organized as a reading circle, covering the relevant journals and conference proceedings in the areas of human-computer interaction and media art. After an initial introduction to the relevant journals and conferences in the field, students will be supported to read, summarize and present an individual selection of articles. Students experienced in research and those who are new to this part of academia are supported, each according to their needs. Participants are encouraged to propose and discuss additional journals and conferences in related research areas. This course is synchronized with Academic Publication Practice.

## Penesta Dika



Dr. Penesta Dika works as a freelance curator in Vienna, lectures at the University of Art and Design, Linz and at the University for Business and Technology, Prishtina (XK). The results of her scientific research into digital art, includ-

ing various artworks that employ virtual reality, AI, and telerobotics have been published in international books, journals and conferences. She was invited to several collaborations with the Austrian Academy of Sciences, which were published as artistic research. Dika is also the author of the book, *Interactive Digital Art. Visual Motifs and their Meaning* (Logos, Berlin 2017).

[penestadika.at](http://penestadika.at)

## Academic Publication Practice

In Academic Publication Practice, students will learn how to formulate academic texts that can be used as the basis for their master thesis, or as paper submissions to international conferences and scientific journals. This course focuses on refining the students' individual research, including the creation of suitable research questions, design of the table of contents and sourcing appropriate literature. Students will analyse and discuss various books, journals and other articles from the field of media art and HCI. Use of appropriate research methods such as qualitative / quantitative, design thinking and OIS will be discussed. Students

will be trained to use diverse reference styles such as Harvard, APA, Vancouver, etc., and to give appropriate presentations of their research.

## Media Art History

In Media Art History, students will learn about key artworks from the history of media art and their development in relation to scientific and technological progress. The interfaces and interactivity of artworks are focused on by addressing different genres. Media technologies and their usage in art from panoramas to head mounted displays and CAVE, from photography to film, through video, smartphones and apps and so on will be discussed. Students will learn to put contemporary media artworks in a historical, socio-political context, considering the development of diverse media, technologies and general media theories. In addition to works based on current topics such as VR / AR / MR, artificial life and telerobotics, this course also includes discussion about preceding artworks from the earlier fields of computer and oscillograph art, happenings, fluxus and performance.

**“Students studying at Interface Cultures are trained not only to understand and create works of art based on the latest trends in science and technology, but also to be part of important projects developed with relevant global institutions and to meet key artists and scientists within the field.”**

## Roland Richter



For more than a decade, Roland Richter worked as a researcher in the fields of image processing and machine learning at Johannes Kepler University Linz. In addition to his background in mathematics, he learned

to work with a number of programming languages including C, C++, Java, Python, Haskell and Prolog. Subsequently, Roland completed a second degree in education. He has been teaching mathematics, computer science and programming to students of all ages since 2015. He has been a lecturer at the Interface Cultures department since 2020.

## Programming I and II

This course offers an introduction to programming using the Processing language and environment. The course objective is to provide a basic but solid understanding of programming, starting from the basics (variables, operators, functions, control loops) and later moving on to intermediate topics (objects, algorithms, graphics and sound). The course is intended for students with little or no experience of programming and will focus primarily on the paradigms of imperative and object-oriented programming, practised and illustrated using audiovisual applications.

*“Each of us should be able to look beneath the surface of our world and understand how things really work. That’s what Interface Cultures means to me: we start to look beneath the interfaces of our world’s technologies and learn how these things really work.”*

## Filipe Pais



Filipe is a researcher, educator and curator living between London and Paris. He is particularly interested in the ways contemporary art and design movements interrogate and represent technological agendas, dealing with issues such

as transparency, blackboxing, behaviour, play, dematerialization, flow, immersion, algorithmic governance, ecology and life after Google. He is currently a research associate at the Reflective Interaction Group from EnsadLab at the École Nationale Supérieure des Arts Décoratifs, Paris. He teaches in the fields of art, design and play at Noroff University, Norway, Parsons School of Design, Paris, the London College of Communication and the Royal College of Art, London.

[filipepais.com](http://filipepais.com)

**“In a world where every relationship is increasingly mediated by visible and invisible interfaces of all kinds, their rules and world views now hold an important influence on humans and the natural environment. A critical and playful examination, exploration and re-development of interfaces through art and design is now more vital than ever.”**

## Robotic Workshop (Critical Aesthetics)

This hands-on module is an introduction to speculative robotics. It proposes a reflection on the ever-growing network of the internet of things, smart objects and the generalized automation of things. Students are asked to imagine a world where robots and machines have been given the hard task of saving the world from an environmental crisis. In this human-decentered world, objects become super-objects, while humans become just another actor in the network of objects, living in the interstices of machines.

For three days, students are invited to research, analyse, speculate, imagine and prototype robotic objects that express behaviours through movement. Students will be introduced to a number of theoretical references and a modular robotic kit - the MisB KIT ([misbkit.ensadlab.fr](http://misbkit.ensadlab.fr)). The use of this kit will allow students to become familiarised with modular robotics: motor control, sensors, basic mechanics and tangible animation.

## Hideaki Ogawa



Electronica Japan.

His special research focus is in Art Thinking and he has conducted many innovative projects connecting art with science, industry and society. In addition to his artistic innovation research, Ogawa has realized international projects for festivals, such as export programs like Ars Electronica in the Knowledge Capital, School of the Future with Tokyo Midtown and the Ars Electronica Center Linz. He is also a representative and artistic director of the media artist group h.o. He searches for witty new ideas based on current social contexts, and creates artistic expression with the speed of technological progress.

[howeb.org](http://howeb.org)

**“What are interfaces in the past, present and future? In an uncertain social climate, the journey to find a future interface that connects something is becoming more important than ever. Creating unique interfaces and envisioning the culture of the future. That is the mission of Interface Cultures.”**

## Social Interfaces / Art Thinking

The Social Interfaces / Art Thinking course deals with the central topic of Ars Electronica: the intersection between art, technology and society, and the ways these aspects influence each other. Recognizing how technological evolution has shaped different societies over the last century, the term “interface” becomes a flexible conceptual tool useful for bridging different domains of society – from the intimate and personal to interpersonal interaction up to encompassing populations as a whole.

In this course students will deal with some of the most recent trends in art and technology, from the growing symbiosis of human-nature interactions due to biotechnologies, how AI, robots and other autonomous computing entities extend the borders of human agency, and what it might take to change the social interface in an age of isolation. Art can be seen here as a catalyst for shaping a better future society, opening new perspectives, stimulating curiosity to explore what’s behind the scenes and inspiring creative solutions.

## Victoria Vesna



Victoria Vesna, Ph.D., is an artist and professor at the UCLA Department of Design | Media Arts and Director of the Art|Sci center at the School of the Arts and California Nanosystems Institute (CNSI). With her installations she

investigates how communication technologies affect collective behavior and how perceptions of identity shift in relation to scientific innovation (PhD, University of Wales, 2000). Her work involves long-term collaborations with composers, nano-scientists, neuroscientists, evolutionary biologists and she brings this experience to her students. She is the North American editor of *AI & Society*. In 2007 she published an edited volume, *Database Aesthetics: Art in the Age of Information Overflow* and another in 2011, *Context Providers: Conditions of Meaning in Media Arts*.

[victoriavesna.com](http://victoriavesna.com)

## Art, Science and Technology

This introductory course explores how science technologies such as artificial intelligence (AI), artificial life (AL), neuroscience, bio and nanotech are driving new forms of media art / design and science projects. It broadly surveys the historical development of scientific and technological innovations and focuses on contemporary work inspired by the collaboration between art and science. The idea being that art encompasses contemporary forms of expression that are technologically driven.

Students will meet once a week in four two hours sessions with artist / Professor Victoria Vesna who will lecture and discuss various topics in art and science. They are required to research and write blogs that are due a day before. The final project is a proposal / prototype idea based on a particular art / science topic of interest covered in the course.

## Erika Mondria



Erika Mondria studied Fine Art at the University of Arts, London, Aix-Marseille Université, Marseille (FR), and Fine Art and Cultural Studies at the Kunstuniversität and JKU, Linz (AT). She is a certified Mental-Trainer. Her artistic

approach has always been guided by the observation of the reciprocal relation between the inner (bodily) world and the outer surrounding world of humans. The core question of her research is: “What does it mean to BE a body?” Various biometric measurement technologies such as eye tracking, retina photography and brain-computer interfaces are used within her works.

[mondria.at](http://mondria.at)

### Brain Computer Interface (BCI) and Art

The topic of brain-computer interfaces (BCI) and its social relevance has led to an increasing use of electroencephalogram (EEG)-based BCI systems in artistic works. In this course, after a general theoretical introduction, different BCI systems will be discussed and their use by artists will be analysed. In addition, students will receive hands-on insights into the application areas of EEG-BCI. Not only will students be able to try them out, but also to experiment with them.

**“Getting involved with new technologies, questioning them and examining their current state of development helps to reduce people’s unfounded fears. In psychological terms, increased knowledge creates confidence and encourages people to take action.”**

## Enrique Tomás



Enrique Tomás, Phd is a sound artist and researcher. His work explores the intersection between sound art, computer music and the interaction between man and machine. He has presented and performed his works throughout Europe

at institutions and festivals such as CTM, Ars Electronica, Sónar, ZKM, STEIM, and on. He also holds a doctorate from the University of Art and Design Linz, where he is an active researcher at the Tangible Music Lab. Enrique publishes periodically in international academic journals about relationships between musical instruments and notation.

[ultranoise.es](http://ultranoise.es)

**“Critical approaches to music are radically important especially in the era of digital superabundance. We are constantly approached by algorithms suggesting the consumption of music. They accompany our moods, trips and working hours. For this reason, our role has to be more with proposing artistic breaches than accepting their terms and conditions.”**

## Playful Interfaces (New Interfaces for Musical Expression)

Within this course the focus is on playful musical interfaces and emerging artistic practices involving new interfaces for musical expression, which aim to go beyond the typical mouse and keyboard, piano key or drum pad setups. It seeks to present performance systems that make the most out of the new opportunities for musical expression afforded by interactive technologies.

During the semester, students will design and develop a prototype musical instrument themselves. In doing so, we will explore the theoretical contributions to interaction design, look at examples of recent work by creators of musical interfaces and discuss a wide range of topics pertaining to technology-enhanced performance. The class will culminate in a musical performance where prototypes will be presented in action within a live setting.

## Artistic/Scientific Research Methods

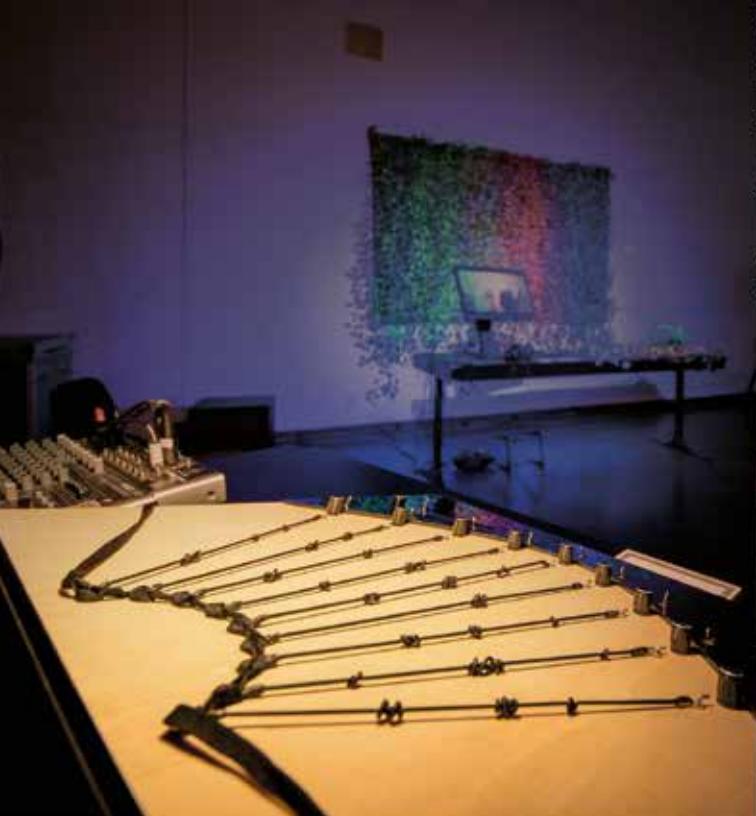
A methodology is the main mechanism guiding a researcher on how to collect, organise, understand, explain, analyse, recognise and evaluate research data. Artistic research methods can take shape through a wide variety of approaches and structures. In this course, participants will gain insight into the development of artistic research methods based on the study of their own artistic practice. In addition, we will analyse best practice examples, thematise involvement in multidisciplinary research teams, discuss existing literature and guides to ultimately develop appropriate research methods in relation to our own artistic practice. This class will provide an opportunity for discussion and interaction through a series of talks on artistic research led by Enrique Tomás and other invited guests.

## Games Workshop II

Games Workshop aims to convey an introduction to game studies alongside applied game design, thus combining theory and practice. Games Workshop II is dedicated to a hands-on experimental development of games. Participants will be introduced to practical development of video games and 3d interactive scenes using the engine Unity. They will learn the fundamentals of designing avatars, scenes, models and animation; how to use materials, lights, shadows and sounds; creating game rules and behaviours; adding additional devices (e.g. Arduino or Kinect) and applications through OpenSoundControl, as well as exporting the project for different platforms like Android and iOS.

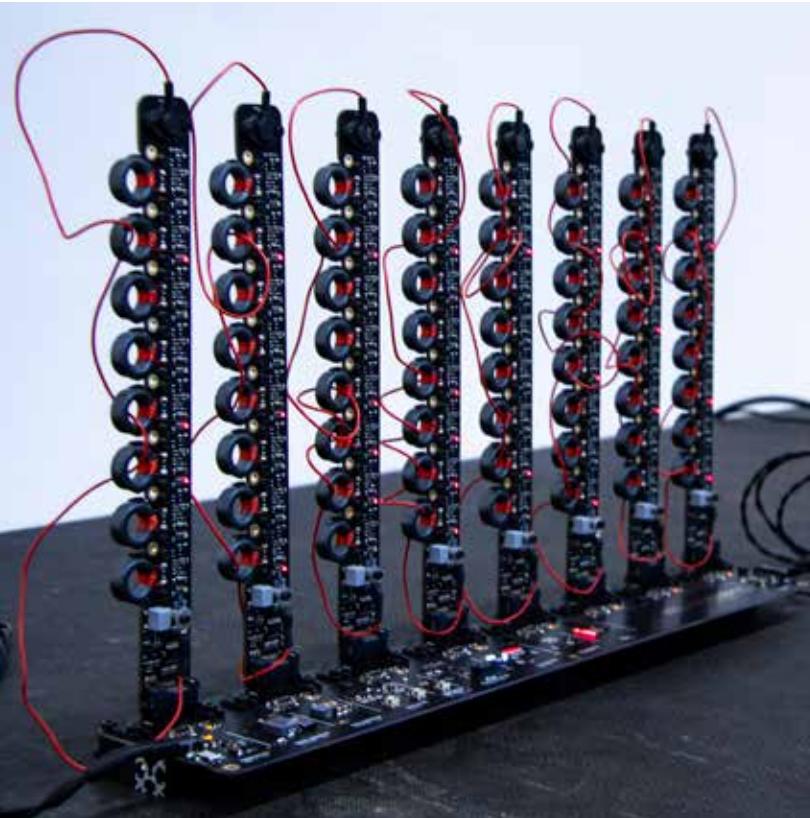
The background of the entire page is a pink halftone pattern, consisting of a grid of small dots that vary in density and size, creating a gradient effect from a darker pink on the left to a lighter pink on the right.

**SELECTED  
STUDENT  
WORKS**



EXHIBITION SETTING AT ARS ELECTRONICA FESTIVAL &  
EXHIBITION SETTING AT EUROPARK SALZBURG

At Interface Cultures, exhibitions and public presentations are part of the programme. Annual participation in the Ars Electronica Festival and project presentations outside of Linz give students the opportunity to engage with topics such as exhibition organisation and design, communication and mediation. Exhibiting is seen as a vital part of artistic practice and negotiates diverse spaces - from the classic white cube to shopping malls. It translates different languages in the space of tension that exists between art and theory and reflects on the practice of exhibiting itself.



## Linobyte

Wesley Lee

As computational devices evolve, more tools and interfaces are built between the user and the machine. This allows us to complete increasingly complex tasks without having to focus on understanding the nuances of the machine. While this movement is generally positive, one of the drawbacks is that people no longer learn the fundamental processes which allow the tool to work. Added to that, by neglecting history, we forget the alternatives of the technologies that we use today - forgotten alternatives that maybe once were the status quo. Understanding them would give us a broader view of what we have now, how they superseded their ancestors and what are their pitfalls - important knowledge for those who design possible futures.

It is with these preoccupations in mind that Linobyte came into existence. It conciliates the explanation of how bits, bytes, and chars work, with a hands-on experience of creating Core Rope ROMs: memories that were written by weaving a wire through ferrite cores.

With the speculative design project *Green Filter*, artists Irene Ródenas and Julia Nüßlein propose a symbiosis between humans and nature.

The visitor is invited to imagine us using nature's elaborate ways to filter the air that we breathe, rather than causing polluted air and ecological imbalance by exploiting the earth for plastic and oil. Imagine plants being part of our every move, and every human having a pet plant.

*Green Filter* consists of wearable objects made from plants and natural materials that filter the air we breath. The objects challenge habits and assumptions, and encourage critical thinking about our position on planet Earth.

## *Green Filter*

Irene Ródenas & Julia Nüßlein



## Communication Noise

Julia del Río

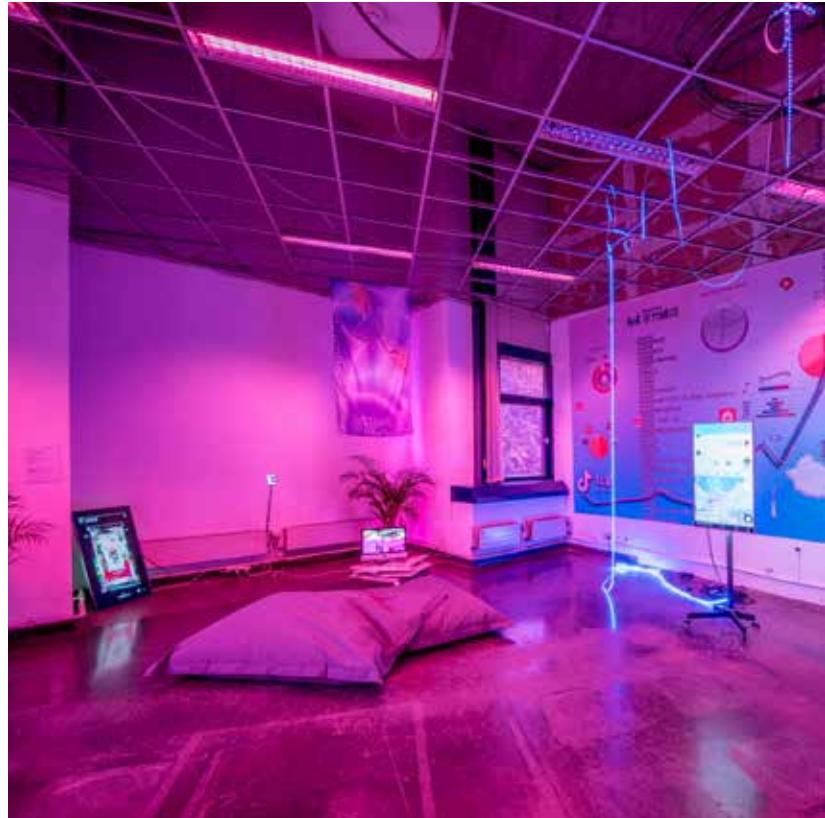
Julia del Río explores diverse artistic strategies for interaction within electromagnetic fields, especially in sound performances. Her concerts sonically translate the invisible world of interference and magnetism without musical compromises. Her sound is always a result of an interchange and of various acts of digital communication. She presents the work *Communication Noise*, a participatory audio-visual performance where the artist sonifies the electromagnetic waste produced by cell phone interaction.



## *I Stalk Myself More Than I Should*

Sofia Braga

There is a narcissistic aspect to surveillance that empowers internet users to monitor their behaviours daily, overcoming the fear of being observed. Sharing structured, rationalized and complex private content with intimate details online places users in a digital (p)anopticron. This content is not easily read and is subject to multiple interpretations, hence it is possible to find various starting points for speculative stories. *I Stalk Myself More Than I Should* is an archive of expired memories that were meant to die within 24 hours. The work displays a selection of Instagram Stories preserved through the use of screen recordings. Going against the nature of this feature, the project investigates appropriation, interpretation and representation, as well as qualities and hierarchies of human memories shared and stored online.





## *How to Change the World Using Art: Imagining an Institute for eUtopia*

Sam Bunn

The Master thesis *How to Change the World Using Art: Imagining an Institute for eUtopia* identifies what the author describes as being a hole in the filmscape - an absence of films that imagine more positive futures (eutopian films). Using the textual device of a secondary character, Sam Bunn discusses his ideas and research around this topic in the form of a conversation with an artificial intelligence from the future. He uses short stories and sections of slightly more academic text to explore his ideas. It contains a survey of recent science fiction films and a theoretical section on utopian theory. The thesis closes with descriptions of the 5 works Bunn made that dealt with this topic.

Children, biometric data, privacy, new technologies, digital self-awareness, micro puppet theater: A hungry Andean cat travels to the coast to fish, unaware that he has some special followers.

This project recreates a short micro puppet theater for children where the scenography is animated by the spectator's biometric data. While seeing the show inside a box through a peeping hole, the child activates sensors that take the data to move clouds, waves, and more.

Inspired by Lambe Lambe puppetry, *Track-track: Let's Follow the Cat!* aims to explore children's new digital environment, the concerns of biometric data and the notion of privacy this implies. This interactive puppet show investigates how children recognize themselves as a data source and how they perceive their own digital data as a resource.

## *Track-track: Let's Follow the Cat!*

Nomi Sasaki



## BitterCoin

Martín Nadal,  
Cesar Escudero Andaluz

*BitterCoin* is an old calculating machine hacked to be used as a miner validating pending bitcoin transactions in the blockchain (online distributed database). *BitterCoin* combines the Internet of Things, media archaeology and economy. The operations are displayed on the calculator screen and printed afterwards.

Bitcoin was originally conceived as an electronic decentralized system for capital transactions. Each node (user) had the same opportunities to get a reward when validating a transaction. In recent years this system has triggered a competitive struggle in which computing power has become the most important variable for earning bitcoins. This involves the use of large equipment - computer farms requiring physical and environmental resources. A struggle that benefits only the owner of the most powerful and efficient technology.

*BitterCoin* takes up this discourse in a rhetorical way. It works as the most basic computer, increasing the time needed to produce bitcoins to almost an eternity.



*\_knotting the memory  
//Encoding the khipu\_*

Patricia Cadavid

A Khipu is a device used in the ancient Inca Empire for the processing and transmission of statistical and narrative information. Linked to textile art, it is a tangible interface encrypted in knots and cords of cotton and wool.

This system was widely used throughout the Andean region until the Spanish colonization that prohibited and destroyed many of the existing Khipus.

This performance pays homage to the Khipu, reusing it as an instrument for interaction and the generation of experimental live sound and video. The artist becomes a contemporary khipukamayuc (Khipu knotter) who seeks to encode the interrupted legacy of this ancestral practice through the knots. With each knot made, an audiovisual composition is constructed that yearns to vindicate the memory and indigenous resistance of the native peoples of the Andes.





## *Beyond Paper*

Qian Ye and Melanie Tonkowik

*Beyond Paper* combines the advantages of physical features with digital information. This book aims to enlighten with every page turned. It encourages the user to step out of the passive viewing experience, making its readers an integral part of its narration by utilizing their senses. This multisensory pop-up book tells one story. But each element and object that sprouts from the page has its own individual story activated and brought to life by the readers' interaction. *Beyond Paper* tries to stretch the blurred line between reader and narration – aiming to tell a story in the most tangible way by unifying the real and the virtual.

*Photosynthetic me* emerged from a process-based experiment, in which Vanessa Vozzo was the test subject, exploring the idea of becoming plant-like. The experiment is based on scientific studies of the photosynthetic qualities of the *Elysia chlorotica* slug. The aim is Vozzo's evolution, whereby she tries to activate a photosynthetic system that can make her self-sufficient for food and energy requirements. This artwork explores the limits of science, fiction, art and life, displaying video and text documentation. It's also actively involves the visitor. *Photosynthetic me* is part of a personal path started a few years ago when Vozzo tested positive for the risk of two genetic mutations: breast cancer (BRCA1) and thrombosis (MTHFR). She decided to explore the debate around innovative techniques in genetics. What if we could replace the diseased parts of our DNA? What if we can swap genes with other species, becoming like leaves? Is this natural? Can I evolve in my imperfection? Is it possible to be perfect?

## *Photosynthetic me*

Vanessa Vozzo

In collaboration with Andrea Macchia and  
Vincenzo Guarnieri



## *Chiromancer*

Giacomo Piazzi and  
Matthias Pitscher

The *Chiromancer* is a hand reading AI that writes predictions about a person's life. This machine upgrades the ancestral practice of palm reading, hybridizing biometric data with a cybernetic infusion of cloud-based knowledge. Like many of the other devices in use today, it collects, stores and extrapolates user data. The *Chiromancer* explores how trust, hopes and wishes are put into seemingly cold machines.



## Portrait of a Generative Memory

Indiara Di Benedetto

How does a person interpret and remember a human face? How can these memories and related emotions be communicated? As an attempt to remember individual faces while dealing with large amounts of pictures, *Portrait of a Generative Memory* focuses on the subjective interpretation of personal memories by collecting information about the elements of a human face that people are able to memorize. The project is centered on the relationship between observation and imagination: observation, as the method used to internalize reality through our intellect, emotions and experience; imagination, as a personal and individual interpretation of a given experience, influenced by the thinking patterns of the individual. Independent from any precise logical elaboration, it processes the content of a sensory experience. The elements of the human face that a person can remember are combined and interpreted to generate a new series of abstract and unrepeatable portraits.





## *Che si può fare?*

Monica Vlad

In collaboration with Johanna Falkinger

When noise music and classical opera meet: Monica Vlad is an experimental audio-visual artist who creates a noise composition based on opera using a live soprano voice interpreted by Johanna Falkinger. The structure is based on three different arias sung by Falkinger, although these arias were not originally composed for this opera. Similar to the system of an *Aria di Baule* – a so-called suitcase or insertion aria – the singer chooses the arias to be sung. In addition, Vlad substitutes the orchestral accompaniment with electronic noise and the classical instruments are replaced by analog machines. The arias, however, are interpreted by the soprano as original.

The theme of this performance is based on feelings of melancholy, sadness, fear of loss, meditation and anger and how music can be used to express and release these emotions.

*Haphenosophobia* is an interface questioning the fear of transmitting diseases through touch. Our skin is our largest organ and has its own intelligence. It is literally the protective barrier between our inner and outer worlds. It gives us an identity and the feeling of being an 'I'.

Skin contact is one of the most intimate forms of communication between people. Often we communicate through our hands. In our hands are numerous tactile receptors. The skin is a social organ and likes to be used. She wants to touch and be touched. This work questions what a world in which we are afraid of transmitting diseases through contact with others means.

## *Haphenosophobia*

Noor Stenfert Kroese



## *Post-Dervish Chant*

Smirna Kulenović and  
Indiara Di Benedetto

A transdisciplinary performance situated as a contemporary audiovisual and performative research of traditional Dervish Dance methods. The process of repetitive whirling in traditional Dervish Dance extends into an experimental, novel and spontaneous movement vocabulary that attempts to embody the relationship between diffraction, memory and vulnerability in human-non-human materialities. The processual employment of dance, movement, vocalisation and dance-like movement becomes a form of inquiry, rooted in personal documentary approaches done by each participating artist – in performing care.



## CONTACT

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