

Convergence

Seminar on **multisensory**
artistic practice and technology

Programme

Day 1 - Royal Conservatoire Antwerp, Witte Zaal (11:30 - 17:00)



Keynote: *Multisensory Musical Interaction*

Prof. Atau Tanaka - Professor of Media Computing at Goldsmiths
University of London

Musical performance can be thought of in multimodal terms – physical interaction with musical instruments produces sound output, often while the performer may be visually reading a score. Digital Musical Instrument (DMI) design merges tenets of Human-Computer Interaction (HCI) and musical instrument practice.

I present scientific research and artistic practice where embodied interaction with digital sound, at times mediated by machine learning technologies, create multimodal and multisensory experiences for performer, listener, and participating actant. The Haptic Wave applied principles of cross-modal information display to create a haptic audio editor enabling visually impaired audio producers to “feel” audio waveforms they could not see in a graphical user interface. The Brain-Body Digital Musical Instrument (BBDMI) project brings visceral EMG muscle interaction together with evoked response of EEG brainwaves.



REACH

Klaas Devos - Doctoral Researcher at Royal Conservatoire Antwerp

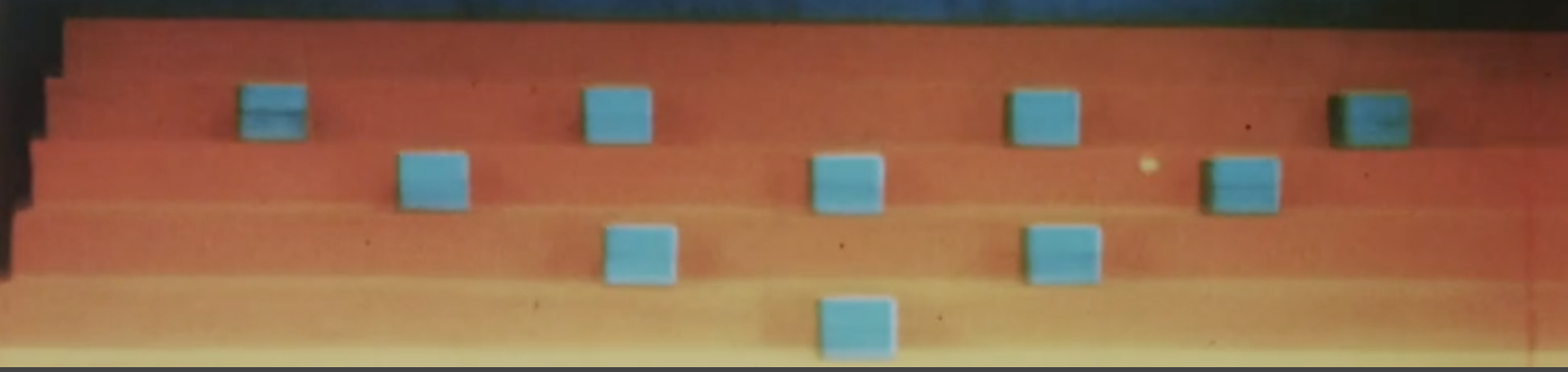
Since 2020, I have been engaging in a practice-based PhD. in dance and choreography named 'Thinking Bodies in Dance. A somatic REACH. (Research in Expanded and Algorithmic Choreography)' at the Conservatoire and University of Antwerp. This research project is explored and produced in close collaboration with a small artistic research team, combining dance, creative coding, graphic and video design, and music and sound art. Together, we aim to create choreographic environments where performers experience hypersensitivity as a creative tool for improvisation. The research stems from my previous choreographic explorations of radical accelerated and/or diminished sensory input on dance.



Synesthetic versus Common Approaches for Multisensory Arts

Dr. Michael Haverkamp - Researcher on cross-sensory design
and acoustics

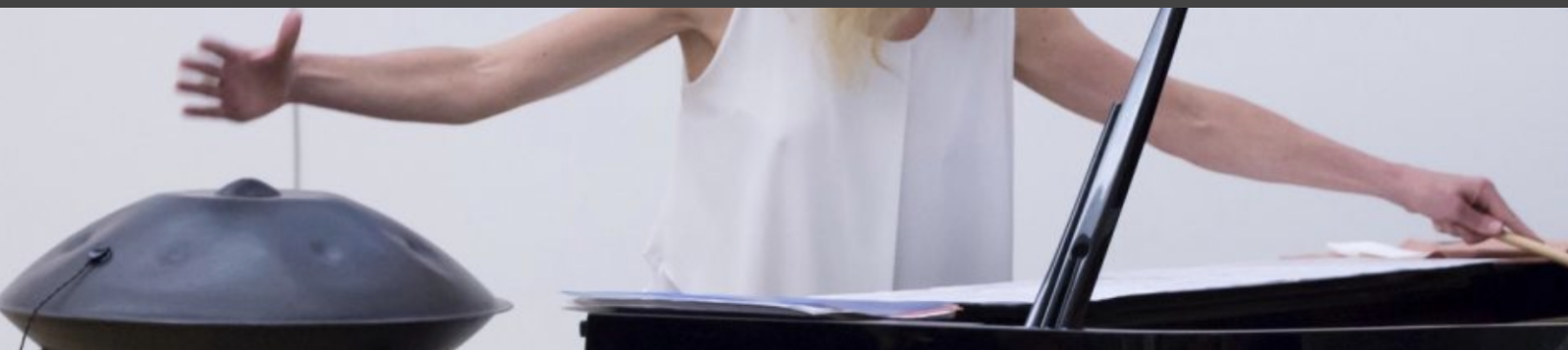
During numerous years, I undertook the task to investigate possibilities of multi-sensory design and the arts. For this purpose, I have developed an approach with a potential to include all perceptual processes which facilitate connections of the senses. Beside a view on the state-of-the-art, this contribution touches the question on whether or not synesthesia may provoke a closer cooperation between the artistic disciplines, design and science. The presentation will include examples on my recent project of synesthetic art: Elements of Richard Strauss' symphonic poem Eine Alpensinfonie, op. 64, released in 1915, are referred to by paintings of my synesthetic impression, in combination with associative cues and free allusions to history, nature, and modern life.



Analogies of movement and form in experimental films with music

Dr. Jörg Jewanski - University of Münster

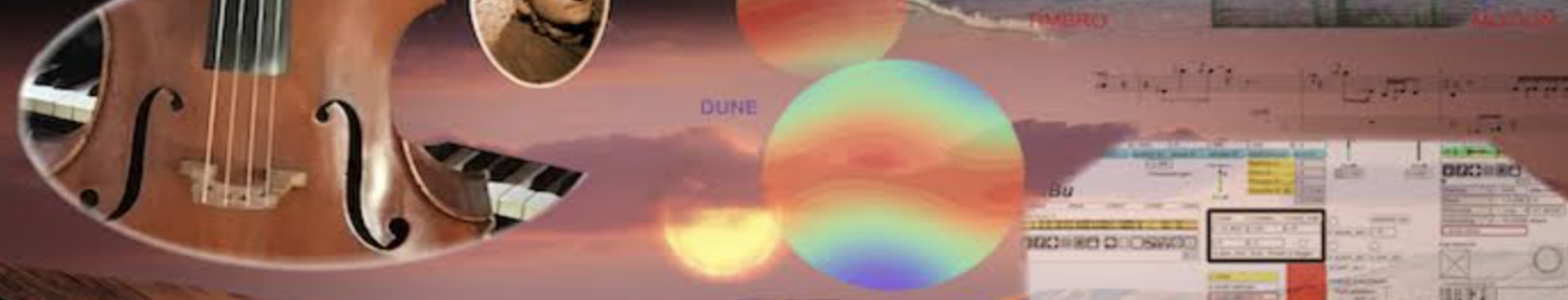
Abstract experimental films with music are manifestations of synesthetic thinking in artistic processes inside the avant garde film art. Both arts, film and music, benefit from interdisciplinary interactions. In this presentation, three different ways of synesthetic analogies of movement and form will be demonstrated through three short films by important abstract short film directors from different countries: *Composition in Blue* (1935, Oskar Fischinger, Music: Otto Nicolai), *Spheres* (1969, Norman McLaren, Music: Joh. Seb. Bach) und *Small Triptych* (1975, Bulat Galeev, Music: Georgij Sviridov). Additionally, the following questions will be discussed: Does one of the involved arts dominate the other Can each of the involved be respected in its own artistic meaning?



Ira Arka Project

Marcela Pavia and Esther Flueckiger - Independent Artist/Researchers

Ira-Arka is a work in progress project: The research involves either the musical content (in the sense that performance is partially improvisational) and the electronics (in constant evolution in terms of technological interactivity). The function of the electronic part is to counterpoint, orchestrate or improvise interactively with the piano. Electronics includes fixed media, live electronics and musical interfaces as well, the latter intended not only as a medium for musical expression but as a way to create visual connections between sound, gestures and visuals. The technological research is focused mainly on this aspect: the multisensory connections increase the attention and involvement of the audience, facilitates understanding and acceptance of experimental artistic languages, creates bridges for inclusivity and provides means for interaction between audience and performers.

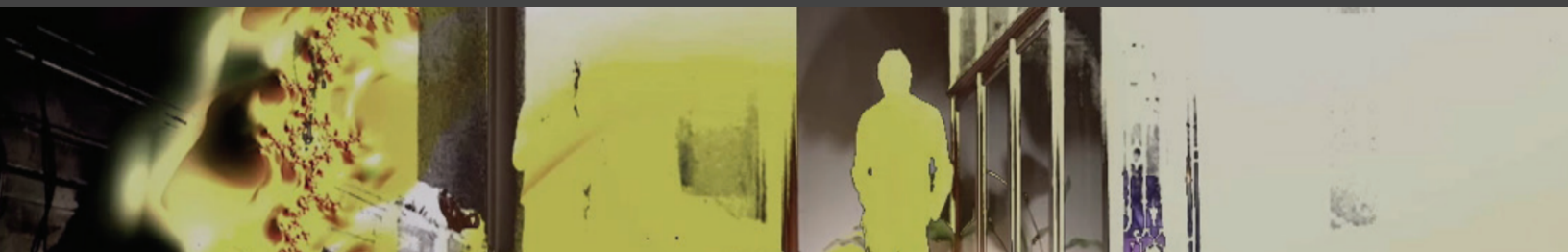


The XTREME Lab: Bridging the Gap between Science, Interactive Art and Human Cognition

Erica Bisesi - Montreal University

Nicola Baroni - Conservatory of Bologna

XTREME is a multidisciplinary multimedia performance inspired by the homonymous exhibition XTREME – Life in Extreme Environments, ESOF 2020. [1]. Its first part is dedicated to the extreme environments of caving and Antarctica [2], while the second stage of the project is devoted to the habitability of exoplanets [3]. Both exploit a collaborative synergetic interaction between scientists, composers, musicians, actors and a dancer to create a multimedia artwork. Our research involves two main experimental axes: natural sciences and algorithmic musical composition, dually intended as a score-based offline work and gestural interactive form-bearing feedback. Our co-creative approach will be illustrated by some examples, both extracted from the overall production and performed in real time.



Making the future experienceable

Peter Friess, Independent Artist/Researcher

Due to new ways of thinking among artists and interesting possibilities through technologies – e.g. off-the-shelves sensors, machine-learning, AI and social media, the transversal potential of music and of art has increased in the past years. Nowadays artists are seeking new ways for having an impact through inclusivity and mind-change – among themselves, with other disciplines, with the audience/public and with society. Research on self-organising systems has revealed that the creation of variants of existing patterns, which are likely to be integrated into the system's behaviour, can have an impact. In this context, artists, through their transversal nature and transgressive interest, can play a crucial role in producing variants by experimenting with all kinds of technology, settings, and non-human lifeforms.



Keynote: *The Kellycaster*

John Kelly - Musician & Disability and Human Rights Campaigner

John is proud to be a Disability and Human Rights Campaigner and has been most fighting for rights to Independent Living. On top of all that he is also a youth worker and a qualified facilitator who works with many different organisations to develop creative & inclusive practice. In his keynote he will talk about the Kellycaster - a bespoke accessible guitar - and his journey as a disabled musician. For a musician who is self-described as 'a bit of a punk at heart', the guitar is a pretty important instrument.

The Kellycaster is a new type of guitar, built bespoke to Disabled musician John Kelly's access needs and musical ambitions. Gawain Hewitt developed a first prototype of the hardware, for a DMLab accessible music technology hackathon at the Southbank Centre. At the event Charles Matthews, with input from Dave Darch and John Kelly, began the mammoth task of creating the code behind the strings. The resulting innovative instrument won the hackathon, and was featured in the Independent's 'I' paper that same week. Since then the instrument has continued to be developed, iterated and refined and John has played gigs, festivals and theatrical performances with his trusty Kellycaster slung round his neck with a rainbow strap.



Concert - Royal Conservatoire Antwerp, Witte Zaal (19:00)

- *In-tensions*
Umut Eldem & Giusy Caruso
- *The XTREME Lab*
Erica Bisesi & Nicola Baroni
- *Synaesthetic Live Drawing*
Kira della Stua & Bryne Carruthers
- *Songs from Mirror Touch*
Concetta Abbate, Paco Rojas Huertas, & Pablo Aranda
- *The Synaesthetic Stage*
Christine Söffing



Exhibition/Quiet Space - Royal Conservatoire Antwerp, Room 316 (Entire Seminar)

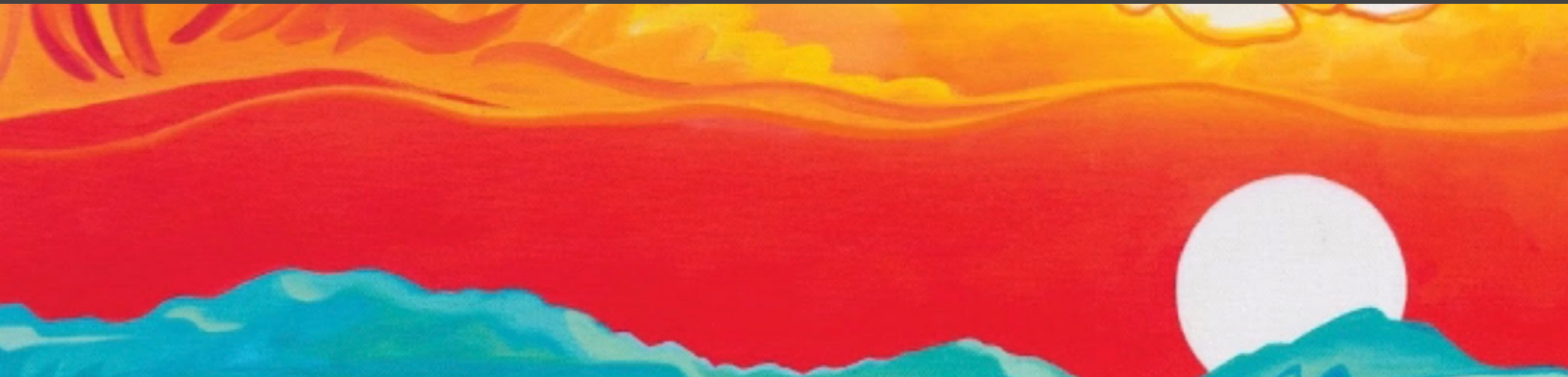
Artworks:

- *PHOTISMS*
Bronze Sculptures by Sanne van Wees
- *Pictures from "Alpensinfonie"*
Paintings by Michael Haverkamp
- *Touched*
Mixed Media by CC Hart

Video Works:

- *Multisensory Documentary*
Geoffa Fells
- *spectra*
Stephanie Scheubeck
- *My Thoughts in the Sky: Synesthesia and the Aurora & Silent Lights 1*
Carrie C. Firman & Svetlana Rudenko
- *REACH.*
Klaas Devos
- *Yellow Dreams of Consciousness*
Sanne van Wees

Day 2 - Royal Conservatoire Antwerp, Room 435 (13:00 - 17:00)



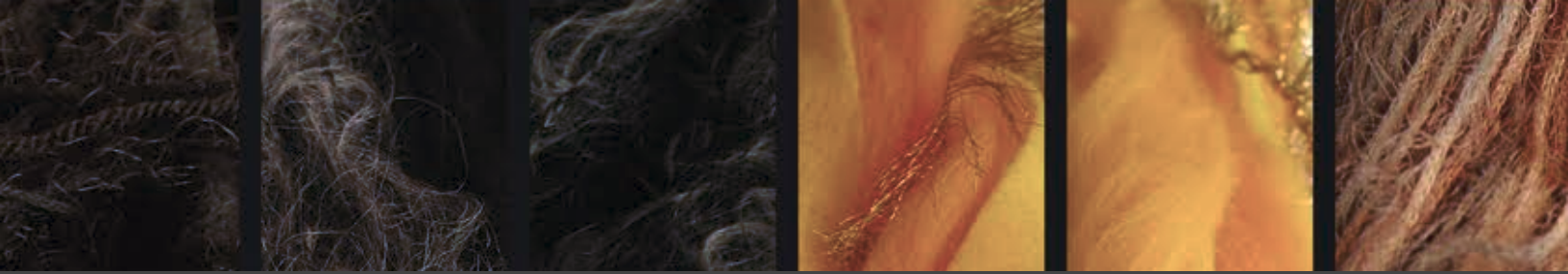
*Exploring mirror sensory synaesthesia through music:
can a contemporary composition reveal the mirror-touch experience?*

CC Hart - artist & founding board member of
the International Association of Synaesthetes

Concetta Abbate - composer, vocalist, and violinist

Research conducted by Drs. Michael Banissy and Jamie Ward has concluded that mirror-touch synaesthesia is a distinct form of cross-sensory perception correlated with heightened empathic ability. Can a contemporary musical composition reveal the mirror sensory experience and the enhanced empathy that is paired with this neurocognitive difference? A series of dialogues were conducted in autumn 2018 between Concetta Abbate, a composer, vocalist, and violinist, and CC Hart, a mirror sensory synaesthete who has mirror-touch.

Ms. Hart provided a narrative of her mirror-sensory synaesthesias and the ways this trait has both enhanced and challenged her interpersonal relationships. Ms. Abbate used that narrative to create a composition which seeks to draw connections between the emotional empathy felt by the artist and that of a mirror-touch synaesthete. The lyrics were composed through a process Ms. Abbate calls “word painting”, which juxtaposes seemingly unrelated words and perspectives to draw a variety of unexpected responses from the listener. The goal of this approach is to allow space for listeners to actively imbue their own meanings onto the work, thus challenging their own empathetic ears.



“Walking Down The Street”: Sound to Colour to Sheet Music

Dr. Jasmin Sinha - linguist and project manager, University of Luxembourg

All types of sounds trigger a visual perception for me, a three-dimensional shape with texture and colours. Using this gift, I created a 5-voice choir score (SSATB) of an a cappella jazz tune: “Walking Down The Street” (The Real Group, Sweden, SSTBB). This was achieved by following a “horizontal” approach”: synaesthetically visualizing each of the five voices, one by one and in detail, taking into account colour saturation and hue, texture, movement, position in space related to the pitch of each music note. Each voice was transferred into music staves. I should add that I am a musical amateur with a good harmonic ear but with very little knowledge of music theory, I did not have the knowledge to apply a “vertical” approach, thinking in harmonies and chords. My coloured-hearing ability was the exclusive tool for producing the main draft of the score.



DataResonance - Technological Interactivity

Marcelo Agustin Martinez - Hanze University of Applied Sciences

The subject of the proposed presentation are the topics and findings of the innovative artistic-research project ‘Data Resonance’. It forays into the physical and perceptive navigation and negotiation of space through the immateriality of personal data. It does so by ways of implementing a bespoke real-time data-translating system in order to enable interactive experiences that aim to contribute conceptually and practically to the development of human-machine interactions. Its main hypotheses are: can creating a system that translates personal data into a sensorial experience empower individuals to collectively co-create a shared and safe environment through technological mediation? And secondly, how, and whether at all, can technologically mediated applications based on personal data be utilised to safely navigate, explore and experience shared spaces?



Sound splinters in a mirror of light

Simonetta Sargenti - Composer, performer, and musicologist,
Conservatorio Guido Cantelli, Novara, Italy

My current research work focuses on relationships between expressiveness and movement in violin playing and converge in a live performance involving different modes of playing. The piece composed for this project arises from Paganini's Capriccio 20 and includes some peculiarity of playing on the violin. The mapped movements produced with the bow are acquired by a motion tracking system and it is used to control motion graphic patterns in real time.

The musical score interpreted in several ways, becomes an interactive tool for a graphic creation. Performance is therefore a synaesthetic experience that involves the listener also visually. Furthermore, the sensors allow to trace the movements that become data to be analyzed for the purpose of a theoretical work of performance analysis and also of an educational project for learning instrumental techniques. The motion tracking project is developed with the technical collaboration of Samuele Polistina and the equipment of LTW3 Studio in Milan.



Musicaligraphy

Silvio Ferragina - Artist calligrapher

This project aims to simultaneously combine two artistic modalities (calligraphy and performative art) by technological mediation which generates, through this convergence, an augmented and synesthetic representation of the artist's movements with music. Interactive technologies will be integrated within the brush to monitor and sonify the artist's gestures and to use these data to activate different audio effects. Thus, the brush becomes an "augmented" instrument which transposes the calligraphic sign into sound by generating a new multidisciplinary and synesthetic performance practice: the "Musicaligraphy".



*Audiovisual Synesthesia Experience through technological devices:
Trivia. An Ecphrasis experiment*

Francesco Magarò - Pianist and Artist/researcher

Pandemic forced people home and changed daylife habits involving art's fruition, bringing artists to rethink their ways to express and collaborate: this setting made me grow this project, aimed to deploy an Ecphrasis experiment (an art medium describing another's in essence or form) by exploring multisensory processes through multimedia. Trivia is a composition I wrote for Konnakol (indian vocalisation form), Tambourine and Riq (italian and arabic traditional percussions). Three "non-melodic" means far from western canons converging inside this composition. During lockdown I played, recorded and edited everything by myself. Then, aiming to implement an artistic experimentation I untied it from my authorial narration by giving it sight unseen to a visual artist knowing nothing about the composing process or musical language. This stimulated a sensory transfer synesthesia (Wilmann): turning sounds into objects, just inspired by listening in order to create a new visual composition suggested by the musical one.



Saundaryalahari – genesis of a reciprocal audio-visual music practice

Yati Durant - Composer, lecturer, trumpeter, and conductor

The Saundaryalahari project is a series of works based on an 8th Century Indian literary work in Sanskrit written by Adi Shankara Saundaryalahari meaning "Waves Of Beauty". The outputs of this project explore through music, sound and visuals the "non-verbal" creativity found in these ancient texts while utilising the structuralism of the spiritual/graphic formation of the Sricakra, which defines and arranges the verses from outside to inside. In this paper, I will explain the genesis and evolution of the Saundaryalahari reciprocal audio-visual system and why going beyond an arbitrary representation of visuals to audio/music allows for more distinct co-compositional approaches in performance and creation. Considerations on research into synaesthesia, experimental animation and improvisation will be discussed along with an introduction to the most recent Saundaryalahari audio-visual sound art works by the author.

Biographies of Participants:

Atau Tanaka:

Atau Tanaka conducts research in embodied musical interaction. This work takes place at the intersection of human computer interaction and gestural computer music performance. He studies our encounters with sound, be they in music or in the everyday, as a form of phenomenological experience. This includes the use of physiological sensing technologies, notably muscle tension in the electromyogram signal, and machine learning analysis of this complex, organic data. He is a member of the EAVI (Embodied AudioVisual Interaction) research group, which focuses on embodied interaction with sound and image. EAVI is a small group of academics, researchers, and PhD students carrying out cutting-edge research across topics including motion capture, eye tracking, brain computer interfaces, physiological bio-interfaces, machine learning, and auditory culture. Atau has previously been Artistic Ambassador at Apple, researcher at Sony Computer Science Laboratory, and professor and guest professor in Japan, France, and northeast England. His work has been supported by the European Research Council (ERC), Horizon2020, and both science and humanities sections of Research Councils UK (RCUK).

Klaas Devos:

Klaas Devos is a choreographer and researcher. His work explores the intimate poetry of knowing and thinking bodies and the aesthetics of mis/understandings. Devos' practice consists of studies on the instant of dance interpretation. The artistic output interweaves dance improvisation and electronic choreography, experimental music, digital arts, somatic practices and cognitive sciences. 'The Thinking Body in Dance' is the subject of his doctoral research in the arts at the Royal Conservatoire Antwerp and the University of Antwerp. This research on live electronics as a dance and choreographic tool connects technology and the human nervous system in dance in order to produce new improvisation techniques.

Michael Haverkamp:

Michael Haverkamp is an expert on cross-sensory design, acoustics and synesthesia. Until 2018, he developed methods for cross-sensory harmonization of automotive products at the Ford Development Centre, Cologne. Born 1958 in Gütersloh, Bundesrepublik Deutschland, he focused on technical and psychological acoustics during his studies at Ruhr-Universität Bochum. His PhD thesis addressed the physiological influences and perceptions of vibration (Medical Department, University of Mainz).

Jörg Jewanski:

Jörg Jewanski received his doctorate in musicology in 1996 with a thesis on color-tone theories, published in 1999. Since then, he has published numerous articles and books on the interrelationships of the arts and on synesthesia. He has written over 100 articles for the new edition of the encyclopedia *Die Musik in Geschichte und Gegenwart* (MGG) and is a collaborator of its editorial board. Between 2018 and 2020, he was a FWF grant holder for Music and synesthesia at the Institute of Musicology at the University of Vienna, Austria. Since 2001, he has been teaching music history and musicology at the University of Münster, Germany.

Marcela Pavia:

Marcela Pavia (IT/ARG) Composer of chamber and orchestral music, electroacoustic and multimedia works, Musical Theatre for Kids and music for didactics. Author of theoretical essays, Board of Directors of the Italian Society for Contemporary Music, member of Agon Acustica Informatica Musica, Faculty Member of the Soundscape Festival (2010-2019) and member of Acusmonium Auditor Association.

Esther Flueckiger:

Esther Flückiger (IT/CH) pianist, composer, improviser (classical, contemporary music, crossover). Her creative ideas are unlimited and she is continuously experimenting new musical directions and emotional music challenges, avoiding previous musical paths. She focuses on the interpretation of contemporary and traditional music, free improvisation and electronic music. She plays with different stylistic directions both solo and in ensemble and has put on concerts in Europe, America, Russia, Asia and South America, taking part in traditional and contemporary music festivals and as a soloist with orchestra.

Erica Bisesi:

Erica Bisesi's academic background is multidisciplinary: PhD in Mathematics and Physics, MSc in Astrophysics, MA in Piano Interpretation and MMus in Music Theory and Analysis (in progress). She is adjunct professor at the Faculty of Music of the Montreal University, postdoctoral researcher in musicology and music cognition collaborating with the IRMA in Strasbourg, the UQAM in Montreal, the Milan and the Moscow Conservatories and the Komitas Institute in Yerevan, member of GATM and SFAM, cofounder of the society for artistic production MASK-APS, and postdoctoral researcher in astrobiology at the Astronomical Observatory of Trieste.

Nicola Baroni:

Nicola Baroni holds Masters of Arts in Cello Performance and Electronic Music from the Conservatory of Bologna, and a MMus degree in Music Aesthetics from the University of Bologna. He studied cello with Alain Meunier and Siegfried Palm, took courses on music software at the IRCAM in Paris and fulfilled a PhD in Composition at the University of Edinburgh doing research on Hyperinstruments. Nicola teaches cello at the "Giuseppe Verdi" Conservatory of Milan, masters both solo and chamber music repertoires, has been member of several Italian contemporary music ensembles, and is cofounder of the society for artistic production MASK-APS.

Peter Friess:

Peter Friess (artist name PETERMFRIESS) has a background in self-organizing complex social systems (Ph.D.) and space technology. He is an interdisciplinary artist and researcher with a wide array of interests, particularly in artificial intelligence, system theory, humanities, philosophy and ecology. Being transversal by nature, he combines inspiration from visual arts, music, theatre, dance, new technologies, science and philosophy into conceptual and cooperative digital art. The focus is on the transformation of our society's evolution into emotional and aesthetic values which resonate and engage the audience.

John Kelly:

John is a self taught musician and singer / songwriter. He has worked with Graeae Theatre Company for six years, performed as part of the Paralympic Opening Ceremony and worked all over the UK and internationally as an artist, vocalist, workshop leader and performer. He also performs regularly with friends in the band Rockinpaddy. John is proud to be a Disability and Human Rights Campaigner and has been most fighting for rights to Independent Living. On top of all that he is also a youth worker and a qualified facilitator who works with many different organisations to develop creative & inclusive practice.

Concetta Abbate:

Concetta Abbate is a composer, vocalist and violinist who holds an MA in Music and Education from Columbia University. She was a Rauschenberg Foundation Composer in Residence in 2019, and was twice a Composer in Residence at TAKT Gallery Berlin, Germany (2014 and 2016). Ms. Abbate's 2018 composition Mirror Touch employs voice and mixed chamber ensemble to explore mirror-sensory synesthesia. She makes her home in New York City.

CC Hart:

CC Hart is a founding board member of the International Association of Synaesthetes, Artists, and Scientists where she serves on the executive board in the role of secretary. A polysynaesthete with 17 forms of blended senses including mirror-touch, she uses her synaesthesia as a theme in her visual art, which has been exhibited in Spain, Russia, and the United States. Ms Hart holds an MFA in Writing from the University of San Francisco, the city she calls home.

Jasmin Sinha:

Dr Jasmin Rani SINHA is a German linguist and a project manager. Since 2006, she is living in the multi-lingual border region of Belgium, Luxembourg and France, working as Grants Officer at the University of Luxembourg. Synaesthesia is her private passion. She has been investigating it from an inside perspective for over a decade – ever since she became aware of it – and strives to make hard-to-explain genuine synaesthetic perceptions accessible to the outside world. She is an active supporter of the German Synaesthesia Association, and she has founded a one-woman publishing house, dedicated to synaesthesia, perception, and the senses: SYNAISTHESIS

Marcelo Agustin Martinez:

Marcelo Agustin Martinez Caram, aka Chelo Agustin, is an Argentinian multimedia trans-disciplinary artists, writer and researcher currently based in the Netherlands. With a focus on performative practice and audio-visual arts, his projects are concerned with the implications of an algorithm based world and the way they may reconfigure our understanding of ourselves and reality. He is a member of the Artistic Research Community in the North (ARC). Holds a B.A. in English Literature and Linguistics from the University of Leipzig, Germany and a Masters in Fine Arts, in Art, Design and Technology, at the Frank Mohr Institute in Groningen, The Netherlands.

Simonetta Sargenti:

Composer, performer and musicologist. After completing his studies in violin, composition, musicology and electroacoustic music, she currently works as researcher in music analysis, performance analysis and electroacoustic music. She published articles focused on the analysis and performance, especially on music of the twentieth and twenty-first century. She holds master classes in several European institutions. She is professor of History and Analysis of Electroacoustic music at the Conservatorio 'Guido Cantelli' of Novara and in the Master of Music Analysis and Theory promoted by the UNICAL (University of Calabria).

Silvio Ferragina:

Artist calligrapher of Eastern formation, one of the few Western artists active in the panorama of contemporary experimental Asian calligraphy, with his work in toto reworking of the concept of "calligraphy", Silvio Ferragina (Milan, 1962) has emerged on the scene of important exhibitions of calligraphy. In addition to an artistic production of classical inspiration, which uses techniques and styles of traditional Chinese calligraphy, he engages in works of taste and contemporary flavor, which allowed him to return fully within the fold of calligraphic experimentation of today.

Francesco Magarò:

Classical piano Diploma in Conservatory, Master's degree in Artistic and Cultural Heritage Marketing, he pursued his focusing on frame drums with Andrea Piccioni, Zohar Fresco, Murat Coskun attending also seminars with Glen Velez, Keyvan Chemirani, Bc Manjunath and others. Interested in different languages he integrates concepts and techniques belonging to Italian, Indian, Arabic, Persian and Western musical traditions, working on a transversal approach leading him to reach the Conservatory Second level Academic diploma in Traditional Music and a University Master in Musical Theory and Analysis. Special founder's prize winner at the "International Terem Crossover Competition" 2018 (St. Petersburg-RUS) with Re-Orient group. He teaches and plays in Italy and abroad while continuing academic research in Ethnomusicology.

Yati Durant:

Yati Durant is a US born composer, lecturer, trumpeter and conductor living in Edinburgh, UK. He holds a Meisterklasse Konzertexam from the Hochschule für Musik Köln and a Ph.D. in Composition from the University of Edinburgh. He is a multi-instrumentalist and active performer and composer of contemporary classical, jazz and improvisatory music, electronic music and music for film and media. His compositions and film scores have received many prizes from international festivals, and he has received commissions and premieres from many well-known artists and ensembles from around the world.

Kira della Stua:

Kira is a mixed media artist, writer and researcher living in Ontario, Canada. Her background is in medical & social anthropology, ethnomusicology, and a 2015 brain injury. In 2021, she founded the "The Museum of Synesthesia" with fellow synesthete, artist and writer, Rebecca Titus (Nashville, Tennessee). They aim to create a collective composed of synesthetes whose work propels the global research community in neuroscience, natural science, mathematics, and new age quantum physics.

Christine Söffing:

Christine Söffing, artist and synaesthet. She uses her synaesthetic colour and shape perception of sounds and scents for making music, compositions, films and sound/scent-art-installations. Since 2010 she is the head of the ensemble for experimental art & music, Ulm University. She has been a member of the German synaesthesia foundation (DSG e.V.) since 2005 and on Board of the IASAS.

Sanne van Wees:

Sanne graduated fine arts in Den Bosch Netherlands in 1998. Sanne performed at exhibitions with installations and music. For example 'Gentse Feesten and Boulevard Festival Den Bosch, July/Aug. 1999 and at Avant Garde café's like WORM Rotterdam, Weelde, Attent 't Otje.

Stephanie Scheubeck:

Stephanie Scheubeck is a German dance artist, choreographer, filmmaker and researcher. Her work is rooted in the world of bodily experience and physical expression, and evolves around the theme of human perception. Stephanie investigates the relationship between dance, embodiment and synaesthesia, a fascinating phenomenon where the senses blend. She aims to promote synaesthesia as an example of diversity in society. Her research and artistic work are strongly influenced by her many types of synaesthesia and have been presented at theaters, galleries, museums, symposiums and festivals around the globe.

Carrie C Firman:

Carrie C Firman is a graphic designer, digital artist, and educator who holds a BA in Commercial Design and Photography (Lycoming College '05) as well as an MFA in Visual Studies (UB '11). She has been awarded artist residencies in the US, Northern Ireland, England, and three in Iceland. Carrie has presented her work as creative inquiry at several international conferences, including the Center for Consciousness Studies and multiple UK Synaesthesia Association and American Synesthesia Association meetings. Her secondary body of work involves visualizing chronic pain, which often has synesthetic influences. She is an Associate Professor and Coordinator of the Graphic Design Program at Edgewood College in Madison, Wisconsin.

Umut Eldem:

Umut Eldem is a composer, pianist, and researcher. His musical works and research focus on the exploration of synaesthesia as an artistic medium. He has given lectures on his research of synaesthesia, and had his audiovisual works and installations combining sound and colours presented in Belgium, Turkey, Romania, Luxembourg, and Russia. Umut Eldem is currently a PhD researcher at the Royal Conservatoire of Antwerp, and musical director of the theatre collective Mixed & United. He gives lessons and workshops on music history, musical analysis, and audiovisual design. His current PhD research entitled 'The Hearing Glass: Synaesthetic Correspondences in The Musical Practice' intends to take the results of his previous research and develop them into an inter-sensory theory of audiovisual art.

Geoffa Fells:

Geoffa is a composer, trumpeter and visual artist who uses her expertise of creation and imagination to write music to highlight the lives of those who are subject to prejudice and stigma. Often focussing on the rights of women and girls, she has an interdisciplinary practice that she defines as artistic activism/ARTIVISM. Geoffa gained her Masters with Distinction from the Guildhall School of Music and Drama, with her final performance piece, 'Addiction 2017' receiving the 'Starred Award' for exceptional performance. Geoffa was subsequently a Fellow of the Guildhall School, writing 'Objectification, Crash Dieting and the Cabbage Soup Diet 2017' for Barbican's OpenFest and 'Scratch the Surface 1' for a Tate Modern exhibition. Geoffa has been writing a long term piece 'Tree Branch Language' of which the 2018 version has been accepted for online publication by CoMA.

Giusy Caruso:

Giusy Caruso is an artist researcher, professional concert pianist and musicologist oriented towards a futuristic approach that connects art and science. Her research explores the human-machine interaction for the gestural and sound analysis and creation of multimedia performances. Under the areas of Systematic Musicology and Embodied Music Cognition, her PhD research contributed to renovating performance analysis with a method grounded on the use of the technology-enhanced mirror. Artist researcher at the Royal Conservatoire Antwerp and guest post-doc researcher at IPEM, Ghent University, and at the Laboratoire de Musicologie, Université libre de Bruxelles, Dr. Caruso is visiting professor at the London Performing Academy of Music to hold the Mirroring Creative Lab course on music performance practice and technology.