


The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

---

[HOME](#)   [V/S PROGRAM](#)   [PUBLICATIONS](#)   [DISSERTATIONS](#)   [Z-NODE WIKI](#)   [IMPRINT](#)   [CONTACT](#)

---

### Aims

Z-node was a research initiative, which began in 2004 as a collaboration between the Institute for Cultural Studies, Zurich University of the Arts, (ZHdK) Zurich, Switzerland and the School of Technology, Communication and Electronics at the University of Plymouth, England. The four main aims of Z-node were: to explore and define new cultural epistemologies between design, art, science and technology, to search for original hybrid combinations of media and art practice and scientific theory by focusing on critical and ethical discourses, and to discuss the future of the arts in relation to the cultural and social impact of technology on society.

See the final conference and exhibition below.

### Who were we?

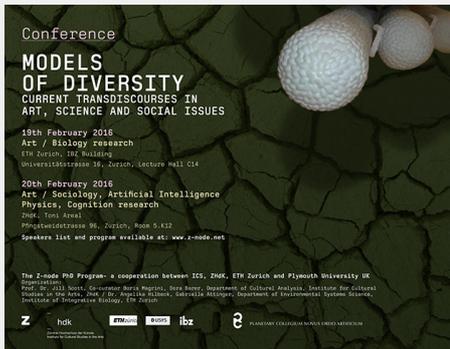
The researchers in Z-node were doctoral candidates and supervisors, based at the University of Applied Arts in Zurich, but the University of Plymouth awards their graduate doctoral degrees. These artists-researchers with years of experience from Switzerland and elsewhere. The members met three times per year for face-to-face 10-day seminars and once a year for international conferences that were attached to our Visiting Scholars Program.

Director of Studies: Prof. Dr. Jill Scott  
First Supervisors: Jill Scott & Angelika Hilbeck

### How did we work?

We, at z-node, were linked to the main hub of PhD researchers in Plymouth called THE PLANETARY COLLEGIUM which has a trans-disciplinary focus. Like the Plymouth group (The CaiiA Hub) and the Milan Group (M-node), the z-node students/researchers as well as the supervisors are still practicing artists, theoreticians, scientists, designers and teachers/professors with years of experience from Switzerland and elsewhere. The members met three times per year for face-to-face 10-day seminars and once a year for international conferences that were attached to our Visiting Scholars Program.

### Announcing the Final Z-node Conference and Exhibition



Welcome to the conference and exhibition that mark the end of Z-node - a seminal trans-disciplinary PhD research initiative, which began in 2004, as a post-graduate PhD research collaboration between: The Institute for Cultural Studies, Zurich University of the Arts (ZHdK), Switzerland and The Planetary Collegium at the University of Plymouth, England and The Institute for Integrative Biology, ETH Zurich

Register now: [dora.borer@zhdk.ch](mailto:dora.borer@zhdk.ch)

### Conference

**MODELS OF DIVERSITY: CURRENT TRANSDISCIPLINARIES IN ART, SCIENCE AND SOCIAL ISSUES**

**REGISTRATION?**  
Please register now for this conference by sending an email to the ICS Secretary Dora Borer: [dora.borer@zhdk.ch](mailto:dora.borer@zhdk.ch)

The main aim of this conference is to create 3-way discourses to search for correlations and models that can foster deeper creative levels of discourses across the disciplines of art, science, sociology and philosophy. Consequently, this conference will be a round table conference with paired presentations of art researchers, scientists and theorists in diverse fields of inquiry- alongside dynamic moderators who stimulate discourse.

**TIME**  
09.00 - 17.00 for both 19th and 20th of February 2016

**DAY ONE - 19th of February 2016**  
At the Institute for Integrative Biology, ETHZ Zurich  
Room: CHN Building ETH, Universitätsstrasse 16, Zurich, Lecture Hall C14

The first day of the conference will highlight and extend the research on the environmental arts and science cluster of Z-node, where artistic researchers have been involved with specially invited scientific advisors. Here, the presentations will focus on topics like: Resources -Healthy Water Quality and Healthy Air Quality Knowledge -Resilience and Agriculture, Environment -Evolution and Cellular Metaphors and Trans-disciplinary Frameworks

**DAY TWO - 20th of February 2016**  
At the Zurich University of the Arts, ZHdK Toni Areal, Zurich  
Room: 5.K12 ZHdK Toni Areal. Pfingstweidstr, 96 8005 Zurich, Switzerland

### Program & Abstracts

#### Downloads

[Program \(PDF\)](#)  
[Abstracts and Bios \(PDF\)](#)

#### Members of Z-Node

##### Supervisors

Dr. Jill Scott  
Dr. Angelika Hilbeck

Dr. Matthias Vogel, Dr. Steffan Schmidt,  
Dr. Daniel Bisig, Dr. Andrea Gleiniger,  
Dr. Stephan Guenzel, Dr. Therese Steffen,  
Dr. Thea Brejzek, Dr. Dieter Mersch, Dr. Olaf Blanke

##### Graduates

Juanita Schlaepfer-Miller  
Eugenio Tisselli  
Aviva Rahmani  
Brandon Ballengee  
Teresa Chen  
Monika Codourey  
Louis-Philippe Demers  
Hung Keung  
Tiffany Holmes  
Trebora Scholz  
Andreas Schiffer  
Andrea Polli  
Karmen Franinovic  
Ellen Levy  
Juergen Moritz  
Kirsten Johannsen

##### Alumni

Nicole Ottiger  
Valerie Bugmann  
Nadia Gisler  
Honor Harger  
Lesley Alfin  
Sandra Hoffman

The second day of the conference will highlight artist-researchers and theorists who explore trans disciplinary and transcultural theory and practice in art, human biology and social science subjects. Here the presentations will focus on topics like: Behaviour- Materiality, Space and Physics.

Representation: The "Self" and the "Other" Sociology- Sociale Technologies and Artificial Theatre

#### CONTACT

Dora Borer (conference organisation) [dora.borer\(at\)zhdk.ch](mailto:dora.borer(at)zhdk.ch)

Exhibition

#### GROUNDED VISIONS: ARTISTIC RESEARCH INTO ENVIRONMENTAL ISSUES



Co-curated by Boris Magrini and Jill Scott  
Scientific advisor: Angelika Hilbeck

This exhibition presents artworks and artistic research, documenting how artists work with scientists on environmental issues. It takes place at the Department of Environmental Systems, ETH Zurich, where art exhibits are rarely shown.

The Artists are: Brandon Ballengée, Tiffany Holmes, Andrea Polli, Aviva Rahmani, Juanita Schläpfer-Miller, Jill Scott, Eugenio Tisselli

#### OPENING

Friday, 27. November 2015, 17:00

#### DURATION

27. November 2015 to 23. March 2016  
Monday to Friday, 11.00 - 19.00

#### LOCATION

Zurich, Institute of Integrative Biology  
Green Floor, Universitätsstrasse 16  
CH-8092 Zurich, Switzerland

#### SUMMARY

Curated by Jill Scott and Boris Magrini, the exhibition is part of the PhD program z-node at the Institute for Cultural Studies in the Arts resulting from a cooperation between the ZhdK and the ETH Zurich and presenting works inspired by environmental science. It includes Brandon Ballengée with photographs of amphibians, Aviva Rahmani with drawings about long-term landscape restoration and Juanita Schläpfer-Miller with a project called Climate Hope Garden 2085. Also Tiffany Holmes shows her innovative eco-visualization software to measure water quality, Andrea Polli presents a project with weather observers in Antarctica and Jill Scott exhibits a media sculpture about sound perception with stories from wild plants. In addition, a community web project by Eugenio Tisselli is shown that was developed with farmers together in Tanzania (in cooperation with Angelika Hilbeck). The scientific advisors for these projects were, Angelika Hilbeck, Christopher Robinson, Christoph Kueffer, Norbert Diller and Andreas Fischlin.

#### CONTACT

Boris Magrini  
[mail\(at\)borismagrini.com](mailto:mail(at)borismagrini.com) | [www.borismagrini.com](http://www.borismagrini.com)

Gabrielle Attinger  
[gabrielle.attinger\(at\)usys.ethz.ch](mailto:gabrielle.attinger(at)usys.ethz.ch) | +41 44 632 29 16

#### LINKS

[Longer Press Release \(PDF\)](#)  
[Grounded Visions \(Website\)](#)

Interview "Art and Science Research @ Znode"

[z-node\\_brochure\\_2013\\_DE.pdf](#) (Deutsch)  
[z-node\\_brochure\\_2013\\_EN.pdf](#) (English)

In cooperation with





The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

HOME V/S PROGRAM PUBLICATIONS DISSERTATIONS Z-NODE WIKI IMPRINT CONTACT

---

### Visiting Scholars Program

---

Each Year z-node members are invited to visit other Universities and Art and Design Schools in different counties. Alongside these visits, conferences are organized by Jill Scott for PhD Candidates to present their research alongside researchers invited by the host institutions. The following is a list of these institutions alongside our other invitations specifically about z-node.

1. Nomadic Transitions Zurich (ZHDK 2004)
2. The Central Academy of Fine Arts, Beijing China (2004)
3. Sripatum University Bangkok and Media Arts and Design Thailand (2005)
4. CMU Art Museum. Chiang Mai University Thailand (August 2005)
5. Centro Nacional Des Artes and Fundación del Centro Historico, Mexico (August 06)
6. Hexagram at Concordia University, Montreal (April 07)
7. Nan Young University: Art Department. Singapore (July 08)
8. Monash University- Art and Design Faculty, Melbourne, Australia (April 2009)
9. Consciousness Reframed. Macromedia University for Media and Communication Munich. Germany (November 2009)
10. ISEA The International Symposia on Electronic Arts. Dortmund. Germany (August 2010)
11. ETHZ Monte Verita Conference - Ecological Novelty, Switzerland (4.-9. September 2011)
12. M-Node at NABA, Milano (November 2011)
13. ISEA The International Symposia on Electronic Arts. University of New Mexico, New Mexico, USA (August 2012)

The conferences attended by each member are not listed here; instead they are listed under each individual's respective name and link.

In cooperation with




The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

[HOME](#)   [V/S PROGRAM](#)   [PUBLICATIONS](#)   [DISSERTATIONS](#)   [Z-NODE WIKI](#)   [IMPRINT](#)   [CONTACT](#)

---

## Publications

---

**The Transdiscourse Book Series: collaboration with Springer, Vienna/New York and De Gruyter, Germany**

The z-node book series provides a publication platform to provide a thematic based intersectional discourse between creative media-arts disciplines and the various disciplines of life science, cognition, and physics, engineering and computing. The series aims to create a critical trans-disciplinary space, where combined artistic, technological and scientific approaches call for embodied practical, as well as theoretical solutions.

Within the educational institutions of art and science, we are still very confined to focused disciplines, which tend to develop separately from each other, a strategy which inhibits holistic problem solving. This book series is therefore dedicated to a thematic approach to the discourses of trans-disciplinary education and its potentials. Our audience are educational facilitators who are engaged in similar projects, or who are interested in the problems and methodologies of teaching across disciplines. The series is also for students who wish to explore current debates and investigate the catalyzing potentials of the arts in relation to science and society.

Each book in this series provides an integrated textual and visual showcase for innovative material projects and related arguments that challenge and provoke trans-disciplinary discourses. We have adopted a format of a theoretical essay section as well as a colour gallery section for invited curators. While the essays are critical reflections, the gallery pages are provided for related audiovisual explorations, or artworks, which represent these potentials in a non-verbal manner.

**The Transdiscourse Volumes:**

**Book #1: **TRANSDISDISCOURSE 1: MEDIATED ENVIRONMENTS****  
2010 - Editors: A. Gleiniger, A. Hilbeck, J. Scott.

Mediated Environments is the first project in a new book series called Transdiscourse, from the Zurich University of the Arts (ZHdK). This series examines the concept that we may need to re-view our future from a transdisciplinary perspective. Currently we 'see' our world through the very conditioned and constructed representations from mainstream media and our bodies, environments and urban constructions are also 'mediated' or shifted by these translations and interpretations of social reality. Mediated Environments attempts to compare and cross-correlate viewpoints from different disciplines including environmental science, architecture, art and literature, through the shared portal of media criticism and urban design.

Information: [Springer Verlag Online](#)

**Book #2: **TRANSDISDISCOURSE 2: TURBULENCE AND RECONSTRUCTION****  
2016 - Editor: Jill Scott / Assistant Editors: Vince Dziekan, Anna Archteilik

Cultural Studies: An anthology of viewpoints on society from the arts and the sciences. The authors in this book were collected together because of their shared concern for society. They all believe that the arts and the sciences are effective spaces to raise public awareness and to encourage us to think differently about our old and out-dated concepts of representation and categorization and reconstruct new potentials about how the designs of the future might benefit our environment and the survival of our bodies. Essential to all writers is the need to drop our old disciplinary boundaries to question our interdependent relationship to technology and to reality. Turbulence and reconstruction are processes that not only affect our representation and categorization, our designs for agriculture, urban nature and energy consumption but also our relation to media and technology - the virtual, digital ideologies of interaction and substitution.

Purchase at: [Onlineshop De Gruyter Verlag](#)

**The Editorial Board of Transdiscourse:**

Jill Scott & guest editors

In cooperation with








The Zurich Node of the Planetary Collegium, Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

---

[HOME](#)   [V/S PROGRAM](#)   [PUBLICATIONS](#)   [DISSERTATIONS](#)   [Z-NODE WIKI](#)   [IMPRINT](#)   [CONTACT](#)

---

### Awarded Dissertations

---

**Brandon Ballegee**

**Title of Dissertation:** Ecological Understanding through Transdisciplinary Art and Participatory Biology

**Author:** [Brandon Ballegee](#)

**Supervisors:** Dr. Jill Scott, Zurich University of the Arts and the University of Plymouth, Second supervisor: Dr. Angelika Hilbeck, ETH Zurich External advisor: Dr. Stanley K. Sessions, Hartwick College

**Description:** In this study evidence is presented that suggests transdisciplinary art practices and participatory biology programs may successfully increase public understanding of ecological phenomenon. As today's environmental issues are often complex and large-scale, finding effective strategies that encourage public awareness and stewardship are paramount for longterm conservation of species and ecosystems. Although artists and biologists tend to stay confined to their professional boundaries, and their discourses largely remain inaccessible to larger audiences, arguments here are presented for a combined approach, which may disseminate knowledge about ecology to non-specialists through novel art-science participatory research and exhibitions. Moreover, historically several scientists utilized varied creative art forms to disseminate scientific insights to a larger populace of non-specialists, such strategies as engaging writings and visually provocative artworks may still be effective to captivate contemporary audiences. In addition such historic hybrid science-art practitioners may have laid a conceptual terrain for some of today's transdisciplinary art and citizen science practices. Furthermore, seminal ecological artworks from the 20th Century by Joseph Beuys, Patricia Johanson and Hans Haacke utilized novel strategies to reach audiences with a message of wetland conservation, blurring boundaries between art, ecology and activism. More recently artists like Cornelia Hesse-Honegger, Helen and Newton Harrison and others have integrated biological research into their art practices, which resulted in new scientific discoveries. Through my own transdisciplinary artwork about frogs, data suggests that the visual strategies I employ were effective to increase non-specialist understanding of the ecological phenomenon of amphibian declines and deformations. In addition through my participatory biology programs, Public Bio-Art Laboratories and Eco-Actions, evidence suggests that non-specialists achieved an increased awareness of the challenges amphibians and ecosystems currently face. Likewise, that through such participatory citizen science research new scientific insights about the proximate causes for deformities in anuran amphibians at select localities in middle England and Quebec were achieved. Here laboratory and field evidence, generated with the aid of public volunteers, found that non-lethal predatory injury to tadpoles from odonate nymphs and some fishes resulted in permanent limb deformities in post-metamorphic anurans. From an environmental-education and larger conservation standpoint, these findings are very relevant as they offer novel strategies for experientially engaging non-specialist audiences while generating important insights into biological communities and wetland ecosystems.

**Teresa Chen**

**Title of Dissertation:** Between Selves and Others - Exploring Strategic Approaches within Visual Art

**Author:** [Teresa Chen](#)

**Supervisors:** First Supervisor: Professor Dr. Jill Scott, Zurich University of the Arts and the University of Plymouth Second Supervisor: Professor Dr. Therese Steffen, University of Basel External Advisor: Professor Dr. Elisabeth Bronfen, University of Zurich

**Description:** This body of research investigates how visual artists express ideas or meanings about Otherness and issues of belonging in their art. The focus of this study is on women artists with an (East) Asian diasporic background; however, the context of the inquiry includes other American and European artists of various cultural backgrounds. A further aim is to explore the artistic strategies and the historical circumstances of the works as well as to understand the theoretical correlations. The author of this study is a visual artist who has been exploring similar issues in her own artistic practice. In order to examine various themes of Otherness, selected pairs of artists – where at least one is a woman artist of (East) Asian diasporic background – are compared and analysed using the following four categories: literary devices (such as irony, parody, connotation or juxtaposition), reappropriation (cultural references which are reclaimed and transformed), anamorphic situations (distortion of conventional ways of viewing in order to become aware of other bodily senses and experiences), and theoretical correlations (connections between artistic practice and relevant theoretical concepts). The specific artists and artworks chosen are: 'Yoko Ono's Cut Piece (1965) with Patty Chang's Melons (at a Loss) (1998), Lorna Simpson's work in the 1980s and 1990s with Nikki S. Lee's Projects (1997- 2001), Guillermo Gómez-Peña with Fiona Tan, and Yong Soon Min with Mona Hatoum. In addition, the author presents critical social and cultural developments that influenced these works such as the historical background of representations of Asian women in America, the rise of the Asian American movement, and the shift in contemporary art discourse from concerns of 'identity politics' to a 'postidentity' framework. Finally, correlations are made between the artistic strategies and relevant theoretical discussions about representations of race and gender, the role of power, knowledge, and truth in ethnographic practices of identification and categorization, and the function of place and 'cultural identity' in relation to concepts of origin and belonging. The results of this research confirm the significance of cultural, historical, and geographic experiences on both the conception and reception of visual art and indicate that various artistic strategies have the potential to expose and undermine culturally constructed meanings of difference. Despite the abundance of research conducted in this area, the scope and framework of this particular study are original not only because it is written from the perspective of a practicing artist, but also because the focus on artistic practices from women artists with (East) Asian diasporic backgrounds is located within a more wide-ranging investigation of artistic approaches that articulate and interrogate themes of Otherness.

**Monika Codourey**

**Title of Dissertation:** Airport Territory as Interface: Mobile Work and Travel in Hybrid Space

**Author:** [Monika Codourey](#)

**Supervisors:** 1st supervisor: Prof. Dr. Jill Scott, Zurich University of the Arts and the University of Plymouth, 2nd supervisor: Dr. Mathias Vogel, Zurich University of the Arts, External advisor: Dr. Gillian Fuller, National Institute for Experimental Arts, University of New South Wales, Australia

**Description:** Global mobility, wireless technology and networked society are transforming the airport territory. These changes (hard factors) have been analysed in airport planning and transportation studies (e.g. Koll-Schretzenmayr 2003, Banister 2003, Schaafsma 2003, Knippenberger & Wall 2010, Salewski & Michaeli 2011, Convenz & Thierstein ed. 2014) and architecture and design (e.g. Edwards 1998, Blow 2005, Cuadra 2002, Uffelen 2012, Gensler 2013). But design strategies focusing on the passenger experience (soft factors) have not yet been thoroughly assimilated by architecture and design. On the theoretical level this dissertation spans the analysis of current methodologies in social studies (e.g. Castells 1996, Gottdiener 2000, Cresswell 2006, Urry, 2007, Elliott & Urry 2010, Adey 2010) and their relation to architectural and urban studies concepts for the airport. The latter includes the "Airport as City" (Güller & Güller 2000), "Aviopolis – A Book about Airports" (Fuller & Harley 2005) and "Aerotropolis" (Kassarda 2010). This dissertation also explores IT and aviation industry interests at the interface between technology and air travellers. In this light aviation industry research and solutions (Amadeus 2011, SITA 2013) are important to consider, as well the philosophy behind who travels and for what purpose (e.g. Sloterdijk 1998, Koolhaas 1998, Gottdiener 2000, Urry 2007, Birtchnell & Caletrio 2014). Here, the author's previous field research at Frankfurt International Airport is relevant. We live more mobile lifestyles, we work in hybrid spaces (Suoza, 2006, Duffy 2010), and we consequently need to share information and collaborate differently. Using constant travellers as a case study, the impact of physical and informational mobility on perceptions of and behavioural patterns in the airport can lead to a deeper understanding of mobile work and the air travel experience. New design strategies can be developed from research about constant travellers, and the results may improve their work and air travel experience. The author's combination of design approaches from architecture and social science (sociology and psychology) methodologies can better address the real needs of constant travellers in hybrid workspaces. It is hoped that this dissertation will inspire airport architects and designers, interaction designers and the aviation industry to pay more attention to users' needs in their design processes.

## Louis Philippe Demeres

**Title of Dissertation:** Machine Performers: Agents in a Multiple Ontological State  
**Author:** [Louis Philippe Demeres](#)  
**Supervisors:** 1st Supervisor: Prof. Dr. Jill Scott, 2nd supervisor: Dr. Steffen Schmidt, Zurich University of the Arts (ICST), External Advisor: Prof. Dr. Rolf Pfeifer University of Zurich  
**Description:** In this thesis, the author explored and developed new attributes for machine performers as well as merged the trans-disciplinary fields of the performing arts and Artificial Intelligence. The main aim was to redefine the term "embodiment" for robots on the stage and to demonstrate that this term requires broadening in various fields of research. This redefining has required a multifaceted theoretical analysis of embodiment in the field of Artificial Intelligence (e.g. The Uncanny Valley) as well as the construction of new robots for the stage by the author. It was hoped that these practical experimental examples generate more research by others in similar fields. Even though the historical lineage of robotics is engrained with theatrical strategies and dramaturgy, further application of constructive principles from the performing arts and evidences from psychology and neurology can shift the perception of robotic agents on the stage and in other cultural environments. In this light, the relation between representations, movement and behaviors of bodies was further explored to establish links between constructed bodies (as in Artificial Intelligence) and perceived bodies (as performers on the theatrical stage). In the course of this research, several practical works were designed and built as well as presented to live audiences and also to research communities. Audience reactions were then analyzed with surveys and discussions. Interviews were also conducted with choreographers, curators and scientists about the value of machine performers. The main conclusions from this study are that fakery and mystification can be used as persuasive elements that enhance agency. Also morphologies can be applied which tightly couple brain and sensorimotor actions and lead to a stronger stage presence. In fact, if this lack of presence is left out of human replicants it causes an "uncanny" lack of agency. Furthermore, the addition of stage presence leads to stronger identification from audiences even for dissimilar bodies than their own. The author proves that audience reactions were enhanced by building these effects into machine body structures and rather than identification through mimicry, this caused them to have more biological associations. Alongside these traits, atmospheres such as those created by a cast of machine performers, tend to cause even more visceral response. In this thesis, "embodiment" has emerged as a paradigm shift and within this shift; morphological computing has been explored as a method to deepen this visceral immersion. Therefore, this dissertation considers and builds machine performers as "true" performers for the stage; more than mere objects with an aura! Their singular and customized embodiment can enable the development of non-anthropocentric performances that encompass the abstract and conceptual patterns in motion and generate – as from human performers – empathy, identification and experiential reactions in live audiences

## Hung Keung

**Title of Dissertation:** Re-appropriating Chinese Art in the Context of Digital Media: From The Chinese Past into a Mediated 'Presence' Through Creative Practice  
**Author:** [Hung Keung](#)  
**Supervisors:** First supervisor: Prof. Dr. Jill Scott Zurich University of the Arts (ICS) and University of Plymouth Second supervisor: Prof. Dr. Thea Brejzek Zurich University of the Arts (Design)  
**Description:** In this thesis, I argue that traditional Chinese thinking and its manner of approaching art can be successfully expanded onto a different platform: digital media art. My research (both in theory and practice) shows how this transformation expands the notions of time and space and forges new interdisciplinary correlations by addressing traditional Chinese culture in four different but interrelated manifestations: the philosophy of Dao, calligraphy, painting and sculpture. As a result, I claim that digital media can shift the notions of time and space from traditional Chinese thinking into contemporary digital art. Conversely, the digital concept of time and space can be interpreted by an analysis of (i) the traditional Chinese philosophy of Dao, so as to understand how ancient Chinese perceived the universe of time and space; (ii) four areas of Chinese art addressed in my theoretical and practical research (as elaborated in subsequent chapters). For example, a new understanding of 'scroll format', 'playappreciation' and Chinese digital art has been introduced through my own practice. As a result, I claim that digital media can shift the notions of time and space from traditional Chinese thinking into contemporary digital art. Conversely, the digital concept of time and space can be interpreted by an analysis of (i) the traditional Chinese philosophy of Dao, so as to understand how ancient Chinese perceived the universe of time and space; (ii) four areas of Chinese art addressed in my theoretical and practical research (as elaborated in subsequent chapters). For example, a new understanding of 'scroll format', 'playappreciation' and Chinese digital art has been introduced through my own practice. In fact, this direction has not been sufficiently dealt with in the past, and deserves more attention in the future. The thesis demonstrates how my practical research was heavily influenced and contextualized by my theoretical research, while the result of my practical artwork applies, expands and transforms that theory. The results of the present research contribute new knowledge while making a number of suggestions and recommendations for artists and curators in, for example, translating the traditional Chinese idea of 'play-appreciation' from visual (2D) to virtual (4D) experience. This research and the practical art projects associated with it will, therefore, effectively contribute to the making of a new digital art history.

## Aviva Rahmani

**Title of Dissertation:** Trigger Point Theory as Aesthetic Activism: A Transdisciplinary Approach to Environmental Restoration  
**Author:** [Aviva Rahmani](#)  
**Supervisors:** 1st Supervisor: Dr. Angelika Hilbeck, ETHZ Zurich 2nd Supervisor: Prof. Dr. Jill Scott, Zurich University of the Arts and the University of Plymouth External Advisor: Dr. R. Eugene Turner, Louisiana State University  
**Description:** This dissertation presents a new approach to environmental degradation. It explores how and why ecoart practice is essential to restoring resilient bioregionalism. It introduces the author's own heuristic perspectives and methodologies and demonstrates how they may be integrated with technology and science. Today, we live in the Anthropocene, and our environments require solutions that come from a transdisciplinary analysis of anthropogenic activities. The problems of accelerated loss of coastal (littoral) zone biodiversity, degraded water quality, and habitat fragmentation need critical attention. Furthermore, the loss of coastal resiliency affects the survival of 40 percent of the humans who live there. The author's research goal was to present a replicable set of rules for a wetlands littoral zone restoration model based on a case study called Ghost Nets, scaled to a second case study, Fish Story. Her approach combined art and environmental science in novel ways, including establishing parallels from quantum physics and acupuncture to compare functional energetic systems. Additional specific analogies were explored from visual arts, theatre, music, dance and performance art to discover a holistic and integrated point of view. By extracting viable rules from these parallels and analogies and interrogating the two case studies, the author intended to model and catalyze healing for larger landscapes. One of the main aims of the study was to examine how the restoration practice of nucleation could be scaled up to the bioregional level and integrated with a special theory, Trigger Point Theory, so that systemic resilience might be re-enforced. This included an analysis of how restored upland ecotones and a different relationship to other species could contribute to nuclear restoration in the littoral zone. This analysis not only critiqued how anthropocentric considerations often fail to protect vulnerable water systems, but it also created a new approach to modeling rules. These rules proposed environmental justice for vulnerable human populations as well as ethical concerns for other animal species. Such approaches might also support community relationships between endemic species. Through an ethical analysis that can inform "our" collective point of view, conclusions were drawn about how ethics and heuristics may determine "our" choices. These choices can determine attribute tables and algorithmic queries for Geographic Information Systems science (GIS) mapping. The author claims that when artists work with the quantitative potential of GIS mapping, their qualitative potentials may propel a new transdiscourse. This, in turn, could eventually cause heuristic information to become more scientifically useful. Using the Ghost Nets case study scaled to the Gulf of Maine, GIS mapping was used to analyze relationships between finfish abundance, eelgrass, and invasive predatory green crabs for the purpose of considering where to apply nucleation to resilient coastal and fisheries management practices. The author used performative approaches to contribute expert witnessing for her modeling. Questionnaires were used to determine how much community awareness was accomplished with the case studies to assess effects on future behaviour. By combining art and science methodologies, she revealed insights that could help small degraded sites that have been restored act as trigger points towards restoring healthy bioregional systems more efficiently than would be possible through restoration science alone. Current restoration methodologies from science are overwhelmed and challenged by the emergence of ecological novelties. Therefore, contributions from ecoart should be combined with scientific systems. In scaling up and applying these innovative practices for landscape ecology, the author assembled a set of recommendations for other researchers and constructed modeling rules to further explore and implement these ideas in the future. Those recommendations included the formal engagement of ecological artists as equal partners on environmental restoration teams.

## Trebzor Scholz

**Title of Dissertation:** The Internet as Playground and Factory  
**Author:** [Trebtor Scholz](#)  
**Supervisors:** Prof. Dr. Jill Scott. ICS ZHdK and Prof. Dr. Matthias Vogel ICS ZHdK  
**Description:** Currently, there is very little to no awareness of the expropriation of "interactivity labour" among the people who populate the Internet. "Free Labour" is, in fact central to the Internet. Traditional exploitation of labour was complemented by the monetization of attention between the 1880s and 1950s and then by the commoditization of networked publics starting in the 1980s. Today, commercial interests have colonized the Internet and "labour" is being performed online by hundreds of millions of people. Without being recognized as "labour", it turns profits for corporations. Playful, virtual volunteerism, and social production, driven by the desire for praise, entertainment, and peer recognition, has become a significant driving force of consumer capitalism. In this dissertation I discuss the complex phenomena of "free labour" online. New social media have made people easier to use! Corporations have learnt to profit by appropriating the behavioural templates, social norms, and expectations of people that used communication system that preceded the Internet. Today, even what looks like casual play and spontaneous interaction makes money for the owners of the "playgrounds" of the Web. From the global "participation gap" to government and corporate surveillance, the newly gained freedoms and visions of empowerment have complex social costs that are often invisible. Exploitation surely exists but it is rare in the context of social milieus of the Internet. In this thesis I am unpacking some historical roots of the mechanics of this placement of people in a position in which they can be used and in relation to which they mount little resistance. I am proposing an analysis of the instruments with which value is created and captured and I am discussing motivations behind the widespread participation. Situated within the larger field of Internet Studies, this thesis contributes an approach that is deeply sceptical while also being celebratory and optimistic. One-sidedness, either on the techno-utopian or on the dystopian side is a limitation of many studies in this area.

Tiffany Holmes

**Title of Dissertation:** Eco-visualization: Combining art and technology to reduce energy consumption  
**Author:** [Tiffany Holmes](#)  
**Supervisors:** Prof. Dr. Jill Scott. ICS ZHdK and Dr. Angelika Hillbeck ETHZ/ICS ZHdK  
**Description:** Artworks that display the real time usage of key resources such as electricity offer first, new visual strategies to conserve energy and second, new site-based environmental learning experiences. My own eco-visualizations—or artworks that creatively visualize ecologically significant data in real time—represent a substantial contribution to new knowledge about dynamic feedback as a tool to promote energy conservation in the related fields of art, design, and human computer interaction (HCI). The aims of this research endeavour were to locate and debate answers to the following questions: Can art trigger more environmentally responsible behaviour or merely raise awareness via site-based learning? Can art possibly make energy conservation fun, and more importantly, vital to everyday life? Might dynamic feedback from data-driven artwork create a better understanding of resource consumption patterns? Can creative visualizations that translate energy consumption data of some kind inspire not only ecological awareness but also a reduction in a community's carbon footprint? What kinds of visualization strategies are most effective in communicating energy consumption data? These questions generated a four-year research project that involved an extensive literature review that culminated in three different practice-based case studies that resulted in new findings about the specific nature and effectiveness of eco-visualization as a novel conservation strategy. The three primary claims proven here were: Goal 1: Eco-visualization offers novel visual ways of making invisible energy data comprehensible, and thus encourages new forms of site-based learning. Goal 2: Eco-visualization that provides real time visual feedback about energy usage can definitely increase environmental awareness and possibly increase the conservation behaviour in the viewing population. Goal 3: Eco-visualization encourages new perceptions of linkages between the single individual and a larger community via site-based dialogue and conversation. Made with the philosophy of sustainability as a focus, my own artworks or eco-visualizations are used as case studies to illustrate how improved attitudes toward nature, increased environmental awareness, and stimulated interest in conservation concerns were raised.

Andreas Schiffler

**Title of Dissertation:** New Game Physics: Added Value for Transdisciplinary Teams  
**Author:** [Andreas Schiffler](#)  
**Supervisors:** Prof. Dr. Jill Scott ICS and Prof. Dr. Daniel Bisig, The Artificial Intelligence Lab, University of Zurich.  
**Description:** This study focused on game physics, an area of computer game design where physics is applied in interactive computer software. The purpose of the research was to provide a fresh analysis of game physics in order to prove that its current usage is limited and requires advancement. The investigations presented in this dissertation establish constructive principles to advance game physics design. The main premise was that transdisciplinary approaches provide significant value. The resulting designs redacted combined goals of game developers, artists and physicists and provide novel ways to incorporate physics into games. The applicability and user impact of such new game physics across several target audiences was thoroughly examined. In order to explore the transdisciplinary nature of the premise, valid evidence was gathered using a broad range of theoretical and practical methodologies. The research established a clear definition of game physics within the context of historical, technological, practical, scientific, and artistic considerations. Software implementations of several elements were developed to examine the practical feasibility of the proposed principles. This prototype was exposed to practitioners (artists, game developers and scientists) in field studies and documented on video. The findings from this research demonstrated that standard game physics is a common but limited design element for all computer games. The principal conclusion drawn from this study was that "new game physics" can advance game design and create value by expanding the choices available to game developers and designers, enabling artists to create more scientifically robust artworks, and encouraging scientists to consider games as a viable tool for education and research. This study established a state of the art research into game physics including constructive principles for future investigations and new material to address the observed discrepancies in game theory and digital media design.

Andrea Polli

**Title of Dissertation:** Communicating Air: Alternative Pathways to Environmental Knowing through the Experience of Geosonification and Other Ecomedia  
**Author:** [Andrea Polli](#)  
**Supervisors:** Prof. Dr. Jill Scott ICS ZHdK and Dr. Angelika Hilbeck, Institute for Integrative Biology, ETHZ, Swiss Federal University.  
**Description:** This dissertation presents an extended argument for greater public engagement with weather and climate science, greater public and private support for long-term collaborations between media art and climate science, and increased public open access to global weather and climate monitoring and computationally modelled data. The author's references her direct creation and presentation of location-based ecomedia and art projects in Antarctica, USA and Taipei. She claims that production of geosonification and other ecomedia can open alternative pathways to environmental knowing in this time of urgent climate crisis. The role of aesthetics in enhancing environmental knowing and the potentials of visual and the affect of sonic stimuli are examined. Although the primary area of science addressed here is atmospheric science, this dissertation also references the geographical, geological, and biological sciences from a social, political, scientific, and theoretical perspective. It also presents an analysis of a series of projects by the author and others in relation to what human-computer interaction expert Paul Dourish calls "environmental knowing" (2006, p. 304). Here computing is the shared practice that connects scientific understanding to place and content-based creation. The author strived to explore and generate a different kind of data and to shift the structure of the work in the context of this data. For example in Antarctica in a collaboration with weather and climate scientists, she presented art projects have interpreted various kinds of data, build mechanisms for generating new data and interdisciplinary collaboration, and include the voices of various data gatherers, modellers and users. In this thesis, the art projects serve as proof that the tools and ideas of environmental science and information technology can intersect between disciplines and create alternative pathways towards a deeper understanding of weather and climate, specifically in locations with extreme climate and those environments that are at high risk due to anthropogenic climate change. The author created a new term, "geosonification" to contextualize this analysis.

Karmen Franinovic

**Title of Dissertation:** Amplifying Actions: Towards Enactive Sound Design  
**Author:** [Karmen Franinovic](#)  
**Supervisors:** Prof Dr. Jill Scott ICS ZhdK and Prof Dr. Daniel Bisig, Artificial Intelligence Lab, University of Zurich.

**Description:** This doctoral dissertation aims to create a foundation for Enactive Sound Design by creating mutually enriching holistic creative methods and specific scientific ways of working. The author investigates sound that engages sensorimotor experiences, a scientific practice, that has been neglected within existing design practices. This required an analysis of transdisciplinary methods from design, psychology and human-computer interaction that bring together scientific and design approaches, practical workshops, theoretical research and project analysis. First, a basic design approach was used to engage in a reflective creation process and to extend the existing work on interaction gestalt through hands-on activities. Second, psychophysical experiments were carried out and adapted to suit the needed shift from reception-based tests to a performance-based quantitative evaluation. Last, a set of participatory workshops were developed and conducted, within which the enactive sound exercises were iteratively tested through direct and participatory observation, questionnaires and interviews. The author explored the fertile ground between basic design education, psychophysical experiments and participatory design. Combining creative practices with traditional task analysis further developed this basic design approach, resulting in sonic artefacts that can allow psychologists to study enactive sound experience and produced a new methodology for the evaluation of sensorimotor performance with tangible sound interfaces. By using holistic perspectives, the author fostered a subjective experience of self-producing sound. These performance experiments have revealed that sonic feedback can support enactive learning. Therefore, the role of designer, as a scientific collaborator within psychological research and as a facilitator of participatory workshops, has been evaluated. Thus, this dissertation recommends a number of collaborative methods and strategies that can help designers to understand and reflectively create enactive sound objects.

**Ellen Levy**

**Title of Dissertation:** Image and Evidence: The Study of Attention through the Combined Lenses of Neuroscience and Art

**Author:** [Ellen Levy](#)

**Supervisors:** Prof. Dr. Jill Scott ICS ZHdK and Dr. Angelika Hilbeck, Institute for Integrative Biology, Swiss Federal University, ETH Zurich.

**Description:** This study proposed that new insights about attention, including its phenomenon and pathology, would be provided by combining perspectives of the neurobiological discourse about attention with analyses of artworks that exploit the constraints of the attentional system. To advance the central argument that art offers a training ground for the attentional system, a wide range of contemporary art was analysed in light of specific tasks invoked. The kinds of cognitive tasks these works initiate with respect to the attentional system have been particularly critical to this research. The implicit tasks of artworks and explicit tasks used by neuroscience to assess and train attentional performance activate the neural circuits used in alerting, orientation, and executive control function. As a result, the kinds of informal learning that take place during engagement with art can provide training for real-world tasks (e.g., categorisation, conflict-resolution). The author explored Attention through transdisciplinary art practices, varied circumstances of viewing, new neuroscientific findings, and new approaches towards learning. Research for this dissertation required practical investigations in a gallery setting; contextualised and correlated with pertinent neuroscientific approaches. She concluded that art could enhance public awareness of attention disorders and assist the public in discriminating between medical and social factors through questioning how norms of behaviour are defined and measured. The research encompassed, a comparative analysis of several diagnostic tests for attention deficit hyperactivity disorder (ADHD), the adaptation of a methodology from economics involving patent citation in order to show market incentives and examples of data visualisation. The authors exhibition allowed participants to experience first-hand the constraints on the attentional system, provoking awareness of our own "normal" physiological limitations. The embodied knowledge of images, emotion, and social context that are deeply embedded in art practices appeared to be capable of supplementing neuroscience's understanding of attention and its disorders.

**Juergen Moritz**

**Title of Dissertation:** Towards the Affect of Intimacy - Identity in a world of smart objects

**Author:** [Juergen Moritz](#)

**Supervisors:** Prof. Dr. Jill Scott ICS, ZHdK and Dr. Mathais Vogel, ICS ZHdK

**Description:** This thesis explored if developing technological in the fields of Ambient Intelligence and Persuasive Technologies introduce new intricate relationships beyond fundamental use and availability. Instead the author claims they urge us to rethink our capacity to act. Hegel (1927) once posited that primarily technology is a mediating factor between people and the world, therefore our efforts to understand technology often promotes a form of alienation. This old interpretation of the relationship between a person and his or her tool emphasized how the person is active whilst the tool is passive, a distinction that fails to grasp the complex interaction between people and technology in the contemporary world. Today, technology mediates the relationship between people and the world in increasingly complex and often collective ways. As Greenfield (2006) and Fogg (2002) also posit, certain Ambient Intelligence and Persuasive Technologies are in-principle shaping everyday human behaviours. For example, Artificial Companions can shift our understanding of intimacy and identity and may play the role of real or imaginary reference groups whose standpoints are being used as the frame of reference for the human actor. (Shibutani1987). 'Being seen' and 'being judged' are also central themes in this construction and expression of identities. Because these technologies reconfigure identification and profiling practices, the insight of philosophers like Paul Ricoeur (1990), George Herbert Mead (1959) and Helmuth Plessner (1975) are used to trace how: The construction of our identity is mediated by how we profile others as profiling us! Thus, new technologies encroach on our everyday activities and even affect our moral decision-making processes. They are destined to play a larger formative role in people's lives in the future. Latour once framed the wider social role of technologies as res publica or 'public things' (Latour 2005). He pointed out that the old German word 'ding' did not only infer 'material object' but also 'that which brings together'. Therefore, technological 'things' do not only mediate our existence, but are places where these mediations are made explicit. This thesis discusses and criticises the ways in which these "things" help to shape our daily lives and attempts to offer a new approach to this criticism through theoretical comparison and transdisciplinary analysis.

**Kirsten Johansen**

**Title of Dissertation:** Off the Orbit: Works of Art for Long-Term Space Travellers

**Author:** [Kirsten Johansen](#)

**Supervisors:** Prof Dr. Jill Scott, ICS ZHdK, and Prof. Dr. Stephan Guenzel, Berlin Free University

**Description:** This thesis combines the disciplines of art and human spaceflight. The aim of the investigation is to identify the aesthetic parameters for display in works of art on extended crewed missions. The research claims that within the research about human spaceflight, novel working methods should be developed that can integrate the artist into the scientific process. However, the extraordinary challenges of extended space exploration often impair any kind of art production in human spaceflight. These challenges concern technical and human-bodily aspects, psychological and psychosocial restrictions for the spacefarer. These limitations included unusual distance, long timeframes, confined isolated habitats, distant environments, sensory deprivation, the emptiness of outer space, the effects of social monotony and limited contact with home. Many cultural techniques for recreation and stress mitigation are already in use or will be tested in human spaceflight in the near future. It is in this context, that the author evaluates the implementation of works of art. Artworks have the potential to change isolation and confinement, because works of art differ from other objects of daily use. They have a unique appearance, which generates a correspondence between the recipient and the artwork and combine different concepts of thought, which step out of the momentary present. Art also has the ability to create a virtual closeness between the space traveller and his/her home planet, stimulate the human senses and influence individual feelings. First, the author establishes an interdisciplinary working method, which defines the integration of works of art within the indoor environment of space habitats as a stress-mitigating countermeasure against isolation and confinement. Second, she identifies relevant design parameters for works of art for future prolonged space travellers by summarising them in a Book of Principles, a book for other artists who wish to develop significant metaphors for this context. Like every scientific experiment, these works of art must follow the particular demands of verifiability, safety, and reliability. So the artist has unique level of responsibility to make the artwork a part of the spacefarers life-sustaining system. Therefore specific artistic and scientific conditions will make an interdisciplinary mode of operation necessary.

In cooperation with





The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

HOME V / S PROGRAM PUBLICATIONS DISSERTATIONS Z NODE WIKI IMPRINT CONTACT

---

## Imprint

---

**Vice Director: Z-Node. Planetary Collegium**

Prof. Dr. Jill Scott  
Institute Cultural Studies in Art, Media and Design Zurich  
University of the Arts, ZHDK  
Hafnerstrasse 31  
CH-8031 Zurich

[jillian.scott@zhdk.ch](mailto:jillian.scott@zhdk.ch)

fon +41 043 446 6420  
fax +41 (0) 1 446 26 53

Scanning electron microscope pictures at the top:

Prof. Dr. Klaus Hausmann, Freie Universität Berlin, Institute of Biology / Zoology

<http://www.biologie.fu-berlin.de>

Design and Implementation:

GANDS - advertising agency & web design, Starnberg

website redesign 2010

[Kipperdesign](#) - your partner for logo, corporate & Web design

In cooperation with

---





The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

HOME V/S PROGRAM PUBLICATIONS DISSERTATIONS Z-NODE WIKI IMPRINT CONTACT

---

## Contact

---

**Vice Director: Z-Node. Planetary Collegium**

Prof. Dr. Jillian Scott  
Art and Science Research  
Director of Studies: [z-node-Planetary Collegium](http://z-node-Planetary Collegium)

Co-head-Artistsinlabs, [www.artistsinlabs.ch](http://www.artistsinlabs.ch)  
Institute for Cultural Studies in the Arts  
University of Applied Science  
Toni Areal  
Pflingstweiderstrasse, 96  
CH-8005 Zurich

Fon: +41 (0)79 524 92 11

**Research Associate**

Angelika Hilbeck  
Swiss Federal Institute of Technology  
Institute of Integrative Biology IBZ  
Universitätsstrasse 16  
CH-8092 Zurich

Fon: +41 44 632 4322  
Fax: +41 44 632 1215

**President, The Planetary Collegium**

Roy Ascott  
School of the Arts  
University of Plymouth  
Drake Circus  
Plymouth  
Devon.PL4 8PP

[roy.ascott@planetary-collegium.net](mailto:roy.ascott@planetary-collegium.net)

Office: + 44 (0)1752 233329  
Direct: + 44 (0)1179 550918

In cooperation with

---





The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

HOME V/S PROGRAM PUBLICATIONS DISSERTATIONS Z-NODE WIKI IMPRINT CONTACT

---

Dr. Jill Scott

---

**About the Research**

Since 1975, She has exhibited many video artworks, conceptual performances and interactive environments in USA, Japan, Australia and Europe. All of these works have required research into biology and the body, but her own PhD, was entitled "Digital Body Automata" and focused on the environmental and technological factors which have recently affected human body interpretations. Her most recent works involve the construction of interactive media and electronic sculptures based on research she has conducted in neuroscience- particularly the somatic sensory system artificial skin (e-skin) 2003-2007 and on neuro-retinal behaviour in relation to human eye disease (The Electric Retina-2008) and on dermatome and skin behaviour in relation to the "skin" of the landscape and UV radiation (Dermaland- 2009).

**About the Researcher**

Jill Scott is Professor for Art and Science Research in the Institute Cultural Studies in the Arts, at the Zurich University of the Arts (ZhdK) in Zürich and Founder of the Artists-in-Labs Program, which places artists from all disciplines into physics, computer, engineering and life science labs to learn about scientific research and make creative interpretations. She is also Vice Director of the Z-Node PHD program on art and science at the University of Plymouth, UK-a program with 18 international research candidates. Her recent publications include: Neuromedia: Art and Science Research together with Esther Stöckli (2012), The Transdiscourse book series: Volume 1: Mediated Environments, (2011), Artists-in-labs: Networking in the Margins,(2011) and Artists-in-labs: Processes of Inquiry (2006). All publications are with Springer Press. Her artwork spans 38 years of production about the human body, behaviour and body politics, but in the last 10 years she has focused on the construction of interactive mediated sculptures based on studies she has conducted in collaboration with neuroscience labs at the University of Zurich. These include-artificial intelligent skin at the Artificial Intelligence Lab, human eye disease and cognitive interaction in Neurobiology, nerve damage in relation to UV radiation at the Dermatology Lab the development of neural networks in the pre-natal stage at The Institute of Molecular Life Sciences. Recently she finished a new project called Aural Roots about the neural system of hearing, inspired by a residency with neuroscientists at SymbioticA, University of Western Australia and inspired by the work at on hearing at the Universities in Basel and Zurich.

**Websites**

[www.jillscott.org](http://www.jillscott.org)  
[www.artistsinlabs.ch](http://www.artistsinlabs.ch)

**In cooperation with**

---





The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

HOME V/S PROGRAM PUBLICATIONS DISSERTATIONS Z-NODE WIKI IMPRINT CONTACT

---

Dr. Angelika Hilbeck

---

**About the Research**

Her research focuses on biosafety issues and concepts for environmental risk assessment and post-release monitoring of GMOs. Through numerous research and capacity building projects she is heavily engaged in developing countries in Africa, South America and Vietnam. Her research and conceptual work also contributes to the implementation and shaping of the (UNEP CBD) Cartagena Protocol on Biosafety and capacity building in developing countries. In 2006, she was appointed as lead author of Global Chapter 3 and Synthesis Report on Biotechnology of the International Assessment Agricultural Science Technology for Development (IAASTD). She is increasingly involved in broader issues of technology development towards a democratically legitimated, sustainable global future and actively contributes to the debate on agro-fuels, international agriculture, hunger and poverty alleviation.

**About the Researcher**

Angelika Hilbeck is a senior scientist at the Institute of Intergrative Biology (formerly Geobotanical Institute) at ETH Zurich. Also holds an adjunct scientist position at Genoek – Centre for Biosafety, University Tromsø, Norway and serves as Co-Director of Studies, for the Z-Node - PhD program for artists in science fields, University of the Arts, Zurich, Switzerland. She is a member of various national and international committees and scientific organizations. She is co-founder and acting chairperson of a newly founded European Network of Scientists for Social and Environmental Responsibility. 1990 she got her diploma in Agricultural Biology at University of Hohenheim, Germany, and 1994 she got her PhD in Entomology at North Carolina State University, Raleigh, North Carolina. Currently she is the president of ENSSER (European Network of Scientists for Social and Environmental Responsibility).

**Websites**

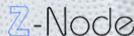
[www.env.ethz.ch](http://www.env.ethz.ch)

[www.ensser.org](http://www.ensser.org)

**In cooperation with**

---





The Zurich Node of the Planetary Collegium. Institute of Cultural Studies, University of Applied Arts, Zurich, Switzerland.

[HOME](#)   [V/S PROGRAM](#)   [PUBLICATIONS](#)   [DISSERTATIONS](#)   [Z-NODE WIKI](#)   [IMPRINT](#)   [CONTACT](#)

---

### Supervisors

At Z-node we follow a very rigorous UK program standardized and quality controlled by the UK Government. Each PhD consists of coursework (attended face-to-face seminar sessions and on-line-wiki analysis) and professional first and second supervisors supervise each student. A final viva defence and PhD award is made by Plymouth where external examiners are chosen to review the written thesis and attend the oral exam. The resultant PHD Thesis can be found in the libraries of both the Zhdk in Zurich and the University of Plymouth.

In fact the diversity of our supervisors backgrounds reflects the trans-disciplinary practice and theoretical analysis of research conducted inside the z-node program.

#### Current Supervisors

First

**Prof. Dr. Jill Scott** | Media Artist: Theorist in Art and Science  
**Dr. Angelika Hilbeck** | Ecologist and Biologist

Second

**Prof. Dr. Matthias Vogel** | Art Historian - ICS ZHdK  
**Dr. Steffan Schmidt** | Musicologist - ICS ZHdK  
**Dr. Daniel Bisig** | Artificial Intelligence and Sound Research - DMK ZHdK  
**Dr. Angelica Hilbeck** | Scientist - ICS/ETHZ  
**Dr. Andrea Gleiniger** | Media Architecture Historian - DMK  
**Prof. Dr. Stephan Guenzel** | Philosophier - Berlin Free University  
**Prof. Dr. Therese Steffen** | Cultural Studies - Uni Basel  
**Prof. Dr. Thea Brejzek** | Scenography - ICS  
**Prof. Dr. Dieter Mersch** | Philosophier - Berlin Free University  
**Prof. Dr. Olaf Blanke** | Laboratory of Cognitive Neuroscience - Ecole Polytechnique Fédérale de Lausanne

Third

All submissions to the University of Plymouth are monitored by third supervisors on the permanent staff of the School of the Arts. **Prof. Roy Ascott**, **Prof. Dr. Mike Punt** and **Prof. Dr. Mike Phillips**.

In cooperation with








(Abb. 1) Tiffany Holmes: Ökoveisualisierung und Watt-Konservierung (2009)

# KUNST- UND WISSENSCHAFTS- FORSCHUNG @ Z-NODE

PHD-PROGRAMM AM INSTITUTE FOR CULTURAL STUDIES IN THE ARTS /  
ZÜRCHER HOCHSCHULE DER KÜNSTE

**Z**

hdk

Zürcher Hochschule der Künste  
Institute for Cultural Studies in the Arts





(Abb. 1) Kirsten Johannsen: Kunst für Astronauten auf ESA-Raumflügen (2010)

**AUTORIN: MONIKA CODOUREY, Z-NODE-DOKTORANDIN  
IM INTERVIEW MIT JILL SCOTT, LEITERIN DES  
Z-NODE-DOKTORANDENPROGRAMMS UND CO-DIREKTORIN  
DES ARTISTS-IN-LABS-PROGRAMMS AM ICS DER ZHDK**

Z-Node oder Zürich-Node begann in 2004 als Forschungskooperation zwischen dem Institute for Cultural Studies (ICS) an der ZHdK und der Plymouth Universität in Grossbritannien. An der Planetary Collegium (CAiiA Hub) in Plymouth haben bereits mehr als sechzig Künstler und Designer bei Roy Ascott doktriert. Die Plymouth-Doktoranden untersuchen Themen, die im weitesten Sinne mit Kunst und (Neuen) Technologien zu tun haben. Z-Node begann mit fünf Doktoranden und ist über die weiteren Jahre auf achtzehn PhD Forscherinnen und PhD-Forscher angewachsen. Sie alle konzentrieren sich auf Forschungsarbeiten im Bereich der Cultural Studies. Heute haben wir drei Forschungsschwerpunkte, u.a. mit Bezügen zu den Life Sciences: „Kunst und Umweltwissenschaft“, „Kunst und Soziologie bzw. Neuropsychologie“ und „Kunst und Computerwissenschaften“, wozu auch das Forschungsgebiet der Künstlichen Intelligenz (AI) gehört.

MC: Scheinbar beziehen sich die Doktoranden am Z-Node in ihrer künstlerischen Forschung stärker auf Aspekte der Naturwissenschaften als Ihre KollegInnen am M-Node in Mailand und am Planetary Collegium in Plymouth. Warum ist das so?

JS: Wir leben in einer Zeit grosser ökologischer Umwälzungen und sozialer Mobilität mit all den kontroversen Folgen und Herausforderungen, beispielsweise den Auswirkungen auf unseren Körper und unsere Gesundheit. Die Doktoranden im Z-Node sprechen in ihrer Kunst diese Veränderungen an und sie suchen Zugang zu Fakten der naturwissenschaftlichen Forschung, um ihre künstlerischen Interpretationen besser untermauern zu können.

Im Laufe der letzten zehn Jahre, in denen wir ein weiteres Programm am ICS, das „Artists-in-Labs“-Programm durchgeführt haben, konnten wir ein intensives Netzwerk zu vielen Naturwissenschaftlern aufbauen, von denen heute auch einige die Zweitbetreuung der Z-Node-Doktoranden übernehmen. Beispielsweise arbeitet Dr. Angelika Hilbeck vom Institut für Integrative Biologie der Uni Zürich mit, an dem genmanipulierte Organismen (GMO) auf deren Risiken hin untersucht und beurteilt werden, oder der Neurochirurg Dr. Olaf Blanke von der EPFL aus dem Bereich der Hirnforschung und des „Embodiment“. Diese Wissenschaftler sind sehr gern bereit, das Potenzial von Kunst- und Designinterpretationen zu diskutieren. Drei unserer Doktoranden waren auch Artists-in-Labs-Stipendiantinnen:

**Tiffany Holmes, Monika Codourey und Nicole Ottiger.** Sie knüpfen in ihren Doktorarbeiten an Ihren Erfahrungen in den Wissenschaftslabors an. Heute werden viele gesellschaftlich relevante Themen von aktuellen Forschungsergebnissen aus den Wissenschaften beeinflusst. Die Z-Node-Doktoranden als Künstler und Designer wollen Bezüge in ihrer Kunst wissenschaftlich fundiert wissen, wenn sie diverse ethische und soziale Probleme ansprechen.

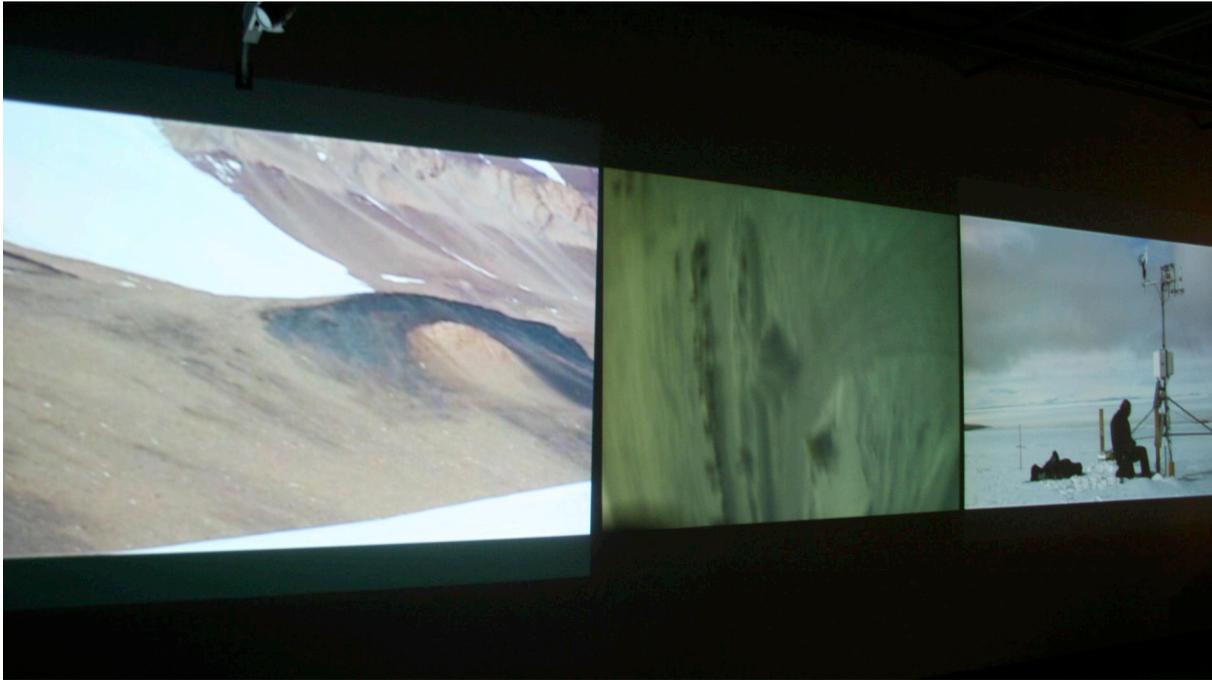
MC: Aber warum sollte ein Künstler oder eine Designerin über kritische und ethische Diskurse in der Wissenschaft promovieren bzw. deren Einfluss auf die Gesellschaft untersuchen?

JS: Nun, „sollte“ ist ein sehr problematisches Wort, aber es interessiert sie vielleicht! Manche Künstler und Designer fühlen sich verantwortlich, soziale und ethische Perspektiven aus ihrer subjektiven Position heraus zu kommentieren. Es ist eine künstlerische Herausforderung, Kontroversen darzustellen oder wissenschaftliche Erkenntnisse in der Kunst zu interpretieren. Sie versuchen, sich von den Wissenschaftlern und ihrer Methodik inspirieren zu lassen. Unsere Aufgabe im Z-Node ist es gewiss nicht, Wissenschaft zu illustrieren oder gar dafür zu werben. Im Gegenteil, wir versuchen, eigene Positionen zu beziehen und verschiedene ästhetische, prozessorientierte oder alternative Perspektiven anzubieten. Dabei hilft ein gewisses Mass an Lebenserfahrung: Die Z-Node-Doktoranden sind in der Regel älter als 35 Jahre. Meist wollen sie nach vielen Jahren künstlerischer und/oder akademischer Arbeit an den Schnittstellen zwischen Kunst und Wissenschaft promovieren, damit sie mit einer einzigartigen Mischung aus transdisziplinärer Theorie und Praxis experimen-

tieren und sich dadurch weiterentwickeln können.

MC: Was bedeutet diese Mehrspurigkeit zwischen Theorie und Praxis für die Z-Node-Doktoranden?

JS: Die Auseinandersetzungen zwischen Praxis und Theorie führen wir kontinuierlich in regelmäßigen Forschungskolloquien. Jeder Doktorand soll für seinen Untersuchungsgegenstand relevante Theorien kritisch untersuchen. Wir streben nach grosser Meinungsvielfalt. Deshalb wollen wir Künstlern beibringen, im akademischen Kontext rund um ihre eigene Kunst zu schreiben und ein Vermächtnis zu hinterlassen, das andere Kunstforscher künftig als Quelle nutzen können. Die Z-Node-Forschungsseminare fördern das Debattieren, erarbeiten neue Theorien oder suchen Korrelationen. Die Doktoranden lernen voneinander durch Zuhören, Nachfragen und Feedbacks, die sie für einander schriftlich formulieren müssen. Nach jeder individuellen Präsentation von Forschungsfortschritten debattieren wir über die Aussagen und deren Unklarheiten und Komplexitäten. Dieser interdisziplinäre Ansatz schafft neue Erkenntnisse, insbesondere dann, wenn die Forschungsarbeiten beispielsweise auf einer physischen Erfahrung in einem naturwissenschaftlichen Labor beruhen, wo andere wissenschaftliche Methoden über einen längeren Zeitraum genau beobachtet werden konnten. Ein Beispiel: Wie können künstlerische und (natur-)wissenschaftliche Prozesse zueinander finden, wenn beide Seiten in Kunst und Wissenschaft ein gemeinsames Ziel verfolgen wollen, um das öffentliche Bewusstsein über den Klimawandel zu schärfen?



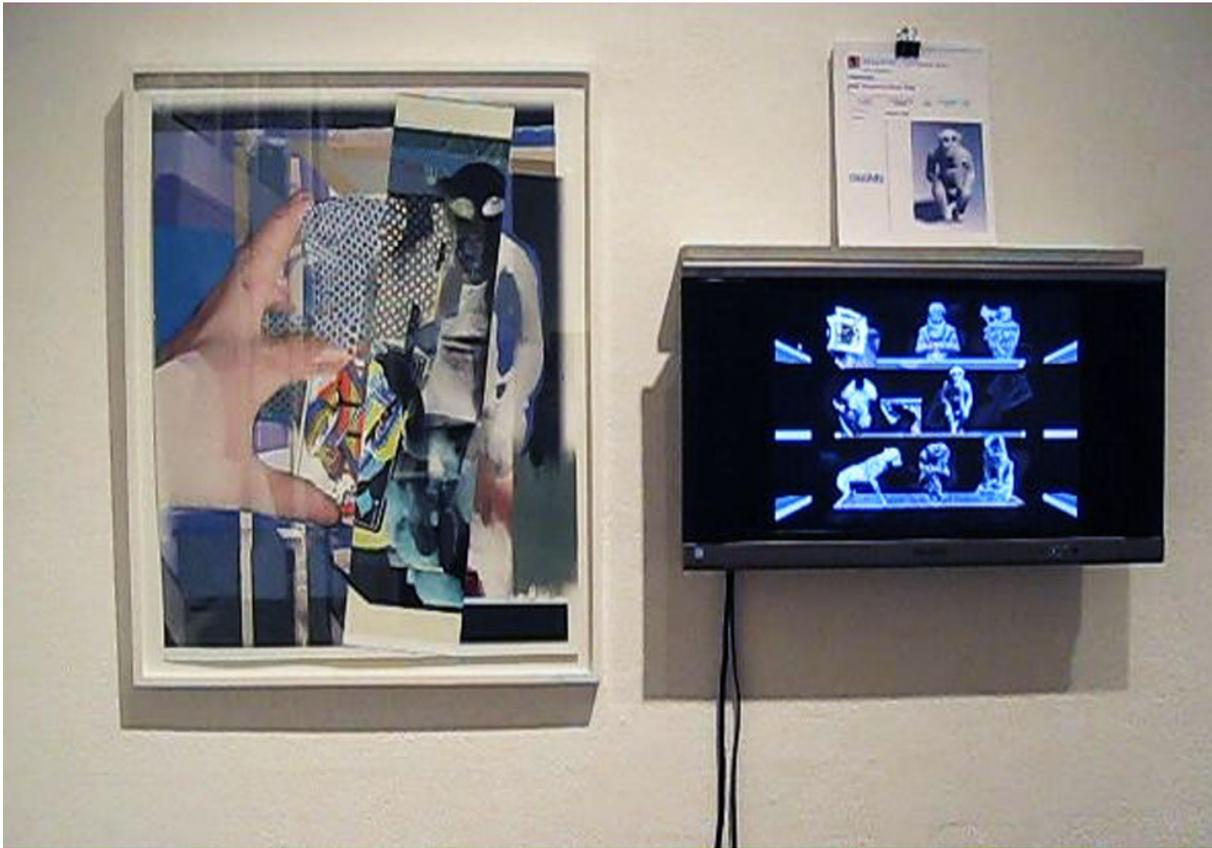
(Abb. 2) Andrea Polli: Medienkunst und Luft: Schallantarktis (2008)

MC: Können Sie mir weitere Forschungsarbeiten ihrer Doktoranden nennen? Vielleicht bleiben wir zuerst bei den Arbeiten, die Aspekte der Umweltwissenschaften mit ihrer Kunst verbinden.

JS: Kunst und Ökologie müssen neue Theorien entwickeln, die dem schieren Ausmass der Klimaveränderungen gerecht werden. Die Umweltwissenschaften stehen vor immensen Anforderungen an die Forschung. Ein Vergleich der Verfahren in Kunst und Wissenschaft kann hier zur Bewusstmachung der Probleme hilfreich werden. Zum Beispiel führte **Andrea Polli** (Abb. 2) Forschungen zur Luftverschmutzung durch und verwendete eine interpretative Methode, die sie als „Geosonification“ bezeichnete. Ihre Arbeiten simulieren für eine Öffentlichkeit Beobachtungen der weltweiten Wetter- und Klimaveränderungen

sowie Modelldaten, die am Computer errechnet wurden. Sie entwickelte dabei Erkenntnisse, die sie mit ihren standortbasierten Medienkunstwerken an Orten wie der Antarktis bereits gemacht hatte. Dazu führte sie vergleichende Interviews mit führenden Umweltwissenschaftlern und Meteorologen zu deren Arbeitsmethoden durch, um sie mit ihren eigenen Recherchen hinsichtlich Wetter und Klima zu vergleichen.

Eine andere Künstlerin und Z-Node-Doktorandin, **Tiffany Holmes**, konzipierte ihre eigene Ökoverisualisierungssoftware, um die Erhaltung natürlicher Ressourcen zu fördern (Abb. 1). Diese Software gab den Benutzern eines Bürogebäudes oder an öffentlichen Plätzen täglich ein visuelles Feedback in Form einer Medienkunstinstallation vor Ort. Diese Visualisierungen lenkten die Aufmerksamkeit auf das eigene Verbraucherverhalten. Holmes'



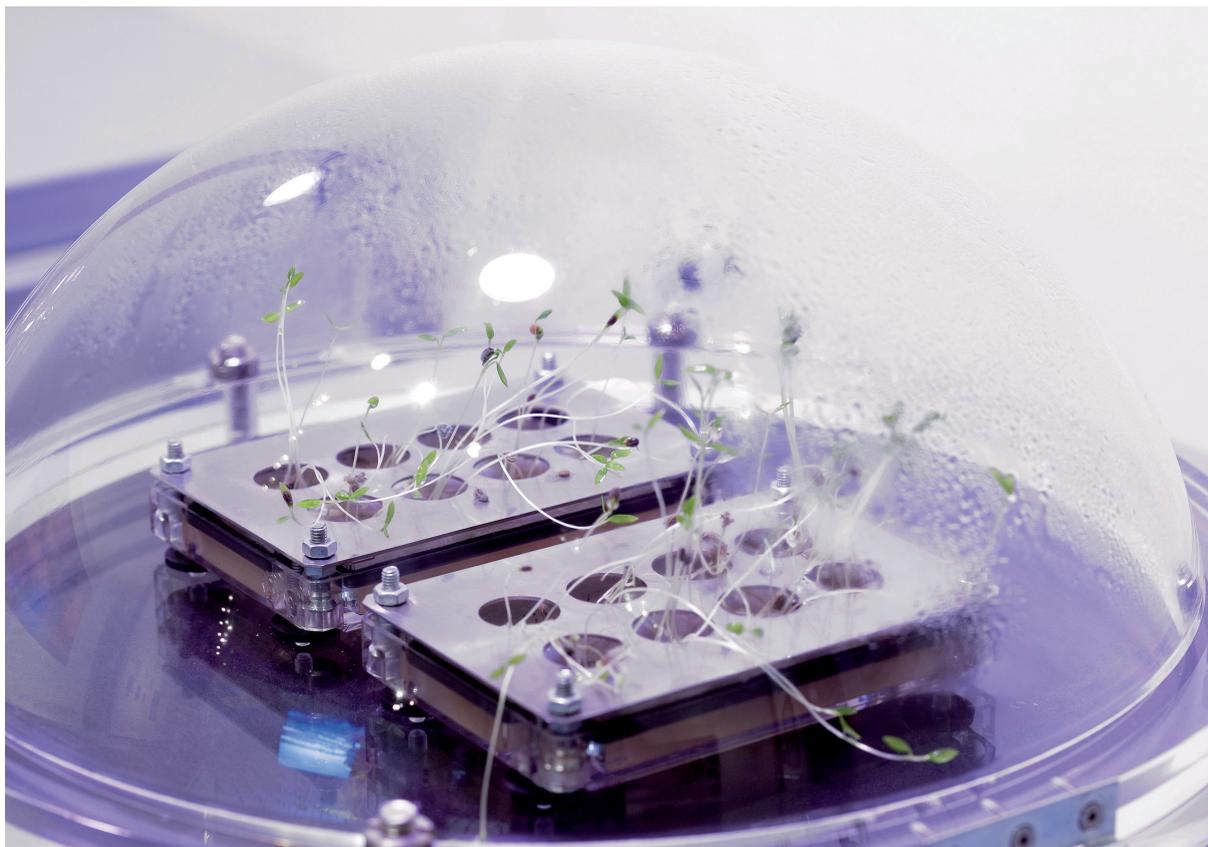
(Abb. 3) Ellen Levy: Aufmerksamkeit stehlen: Kunst und Neurowissenschaft (2010)

Ziel bestand darin, das Verbraucherverhalten am Arbeitsplatz zu thematisieren und Umweltbewusstsein durch Kunst zu fördern.

MC: Wie wird in der Z-Node-Gruppe, die Kunst, Neuropsychologie oder Soziologie thematisiert, neues Wissen generiert?

JS: In dieser Gruppe sind vier Doktoranden. Für sie war es aufschlussreich, wie Experimente in Neurowissenschaften und Psychologie praktisch durchgeführt werden und welche Methoden verwendet werden, um Hypothesen zu bestätigen oder um Verhalten auf objektive Weise zu

analysieren. Man könnte sogar fragen: Wie könnten die mehr subjektiv orientierten Künste Wissenschaftler beeinflussen, andere Ansätze zu entwickeln? Eine unserer Doktorandinnen, **Ellen Levy**, nahm eine Klassifizierung relevanter Künstler vor, die das Thema „Aufmerksamkeit oder Aufmerksamkeitsstörung“ in ihren Werken behandelt hatten. Sie verglich die Arbeitsansätze dieser Künstler mit wissenschaftlichen Methoden, wie sie Kliniken beispielsweise bei ADHS-Untersuchungen einsetzen. Aus dem Vergleich von neurobiologischen Analyseverfahren mit Wirkungsweisen von Kunstwerken, die Aufmerksamkeit von Zuschauern manipulieren, folgert sie, dass Kunst auch ein



(Abb. 4) Kirsten Johannsen: Kunst für Astronauten auf ESA-Raumflügen (2010)

Experimentierfeld zur Beeinflussung von Verhalten oder der Orientierung von Menschen sein kann. Zu diesem Zweck erschuf sie eigene Kunstwerke in einer Galerie und analysierte das Rezeptionsverhalten der Zuschauer (Abb. 3).

Bei einem anderen Z-Node-Forschungsprojekt von **Kirsten Johannsen** wurden Kunstwerke für Astronauten auf Langzeit-Raumflügen entworfen. Sie hat sich zum Ziel gesetzt, die ästhetischen Parameter für ein Leben mit Kunstwerken auf langen Weltraummissionen herauszufinden. Sie entwickelte neue Arbeitsmethoden, für Künstler in der Weltraumforschung. Indem sie auch die

psychologischen Auswirkungen bei Astronauten untersuchte, konnte sie Kunstwerke produzieren, die den Astronauten helfen, Stress zu mildern und mit ihrer Isolierung auf einem so beengten Raum umzugehen (Abb. 4). Weil Kunst in einer Raumkapsel den besonderen Anforderungen der europäischen Raumfahrtagentur (ESA) bezüglich Verifizierbarkeit, Sicherheit, Zuverlässigkeit und lebenserhaltendes Verhalten entsprechen muss, fasste sie diese und ihre Erkenntnisse für andere Künstler in einem Handbuch zusammen.

MC: Das bringt uns zu der Frage, ob die sozialen Medien beispielsweise Menschen in solch

isolierten Umgebungen unterstützen können. Womit beschäftigen sich die Z-Node-Doktoranden Trebor Scholz und Jürgen Moritz?

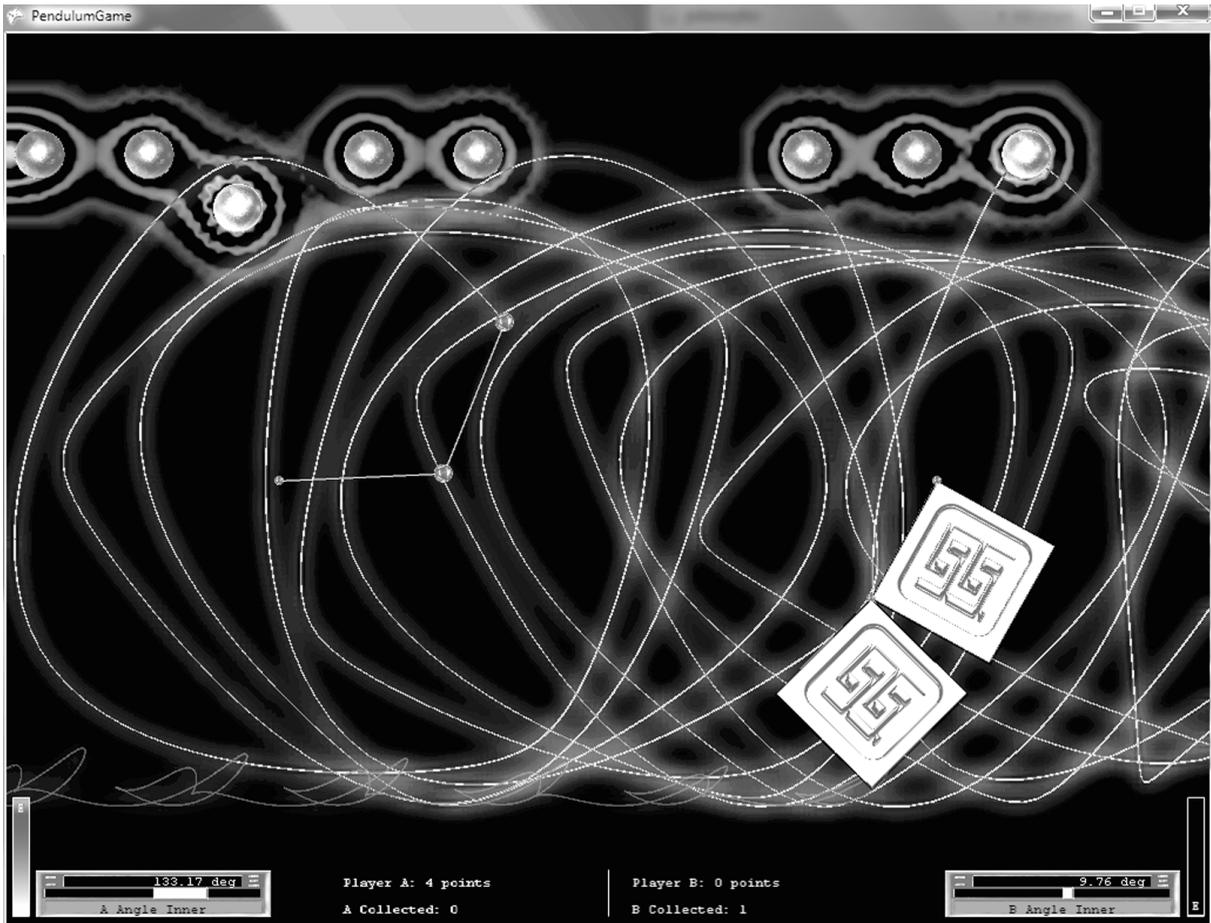
JS: **Jürgen Moritz** untersucht unseren Umgang mit intelligenten Gegenständen (smart objects). Latour beschrieb einmal die umfassende soziale Rolle von Technologien als res publica oder „öffentliche Sache“ (Latour, 2005). Er behauptet, dass technologische „Gegenstände“ nicht nur unser Dasein vermitteln, sondern auch Orte sind, wo diese Vermittlung offensichtlich wird. Jürgen Moritz erweitert diesen Diskurs für Designer und Technologieentwickler durch fachübergreifende Theorievergleiche und fordert ein Überdenken dieser Beziehung. Der Beitrag von **Trebor Scholz** hingegen liegt in seiner kritischen Analyse des Internets und sozialer Medien und deren Rolle im Arbeitsleben. Ausgangspunkt war die Untersuchung individueller Motivationen für Online-Arbeiten, vor allem bei politisch agierenden Medienaktivisten und bei vernetzten Kulturschaffenden wie auch in der Medienerziehung. Dies führte ihn weiter zur Erforschung der Frage, inwieweit Instrumente die Zusammenarbeit alternativer Wirtschaftsformen begünstigen. Er untersuchte auch wie Internet und reales Bürgerverhalten korrespondiert. Kürzlich hielt er einen Vortrag an der ZHdK, wo er eine Reihe von Widerstandsstrategien im Internet und Webseiten präsentierte, die verantwortlich mit privaten Daten umgehen.

MC: Sind es vor allem Künstler oder Designer im Z-Node?

JS: In unserer Z-Node-Gruppe lassen sich die Designer nur schwer von den Künstlern unter-

scheiden. Die Designer haben vielleicht das grössere Interesse daran, die Möglichkeiten interaktiver Schnittstellen zu erforschen, die das Zusammenspiel zwischen all unseren Sinne berücksichtigen. Sie möchten herausfinden, wie Technologien humaner gemacht werden könnten. Neues Wissen kann im Interaktionsdesign in Kombination mit wissenschaftlichen Erkenntnissen aus den Naturwissenschaften erarbeitet werden: Zwei unserer Absolventen, Andreas Schiffler und Karmen Franinovic, haben an dieser Schnittstelle zwischen Design und Naturwissenschaften (insbesondere Physik und Psychoakustik) geforscht. **Andreas Schiffler** war tatsächlich früher Physiker, wurde dann 1995 Gamedesigner und hat seitdem viele Programme für Medienkünstler geschrieben. Er schrieb seine Doktorarbeit mit dem Titel „New Game Physics“ über Entwicklungsstrategien von Computerspielen, bei denen physikalische Phänomene wirklichkeitsgetreu in einer interaktiven Computersoftware eingesetzt werden. (Abb. 5). mit seiner Arbeit bewies er, wie wertvoll fachübergreifende Ansätze für das Gamedesign sein können, insbesondere zwischen Softwareentwicklern, Künstlern und Physikern. Auch wurde die Wirkung eines von ihm neu entwickelten Gamedesign an Zielgruppen untersucht. Seine Studie behob Diskrepanzen zwischen Gametheorien und digitalem Mediendesign.

**Karmen Franinovic** ist Sounddesignerin und Leiterin des Studiengangs Interaction Design an der ZHdK. In ihren Forschungen zum Sonic Interaction Design (Abb. 6) ging es um Psychoakustik. Neue Forschungen über sensomotorische Eigenschaften lehren uns, menschliche Interaktionen im Alltag besser zu verstehen. Dies hat direkte Auswirkungen auf bestehende Designpraktiken, die den Klang von Gegenständen



(Abb. 5) Andreas Schiffler: Spielsoftware für Kunst und Physik (2011)

oder Räumen stärker als bis anhin berücksichtigen. Sie argumentiert, dass Design verbessert werden kann, wenn fachübergreifende Methoden aus Wissenschaft von Designern berücksichtigt werden und hat daraufhin Workshops entwickelt, damit ihre Erkenntnisse von anderen Designern und Designforschern genutzt und weiterverarbeitet werden können.

MC: Wer betreut neben Ihrer Erstbetreuung die Doktoranden? Gab es bei Andreas Schiffler und Karmen Franinovic beispielsweise

auch jemanden vom AI-Labor der Uni Zürich?

JS: Dr. Daniel Bisig, der sowohl an der ZHdK am Institute for Computer Music and Sound Technology als wissenschaftlicher Mitarbeiter wie auch als Senior Researcher am AI-Lab der Uni Zürich tätig ist, hat aufgrund seines Wissens sowohl in Künstlicher Intelligenz wie auch im Sounddesign wertvolles Feedback für die Doktoranden leisten können. Dr. Rolf Pfeiffer, Direktor des AI-Labs der Uni Zürich, war ebenfalls externer Berater für den Z-Node-Doktoranden wie beispielsweise für



(Abb. 6) Karmen Franinovic: Sonic Interaction Design und Psychoacoustics (2011) und Physik (2011)

**Louis Philippe Demers.** Er ist ein Designer, der Roboter als Form „expressiver Medien“ theoretisch untersucht aber auch selber baut. Dabei geht es ihm immer auch um Publikumsreaktionen und Schauspiel. Er versucht, mit seinen Automaten und Maschinen die Gründe zu erforschen, warum wir von „mechanischen“, also künstlichen Darstellern fasziniert sind. Er macht geltend, dass ein Vergleich zwischen Theater und Künstlicher Intelligenz zu neue Designstrategien im Theater führen können.

MC: Was erforschen die Z-Node Doktoranden noch?

JS: Bei uns promovieren derzeit zehn Studenten. Wir haben noch immer unsere drei Schwerpunktgruppen. Aktuell arbeiten wir aber intensiver mit wissenschaftlichen Labors zusammen wie beispielsweise mit dem Institut für Integrative Biologie an der ETH. **Aviva Rahmani** ist eine Konzeptkünstlerin. Sie setzt sich mit der Sanierung

von Sumpfgebieten auseinandersetzt. In ihrer Performancekunst benützt sie GIS, ein geografisches Informationssystem (Abb. 7). Rahmani transformierte eine ehemalige Mülldeponie auf einer Insel im Golf von Maine zu einem sanierten Feuchtgebiet. Derzeit ist sie dabei, aus ihrer Sanierung auf Grund wissenschaftlichen Auswertungen neue Designmodelle zu entwickeln, die sich dann auf andere Gelände mit Umweltproblemen anwenden lassen.

**Brandon Ballengee**, ein anderer New Yorker Künstler, möchte mit seiner Kunst, die Aspekte aus der Meeresbiologieforschung thematisiert, auf Umweltphänomenen aufmerksam machen. Er sammelt als Teil seiner Forschungen wissenschaftliche Daten über Deformationen bei Amphibien in zwei Kontinenten. Er diskutiert die Ursachen dieser Deformationen mit Laien wie auch mit Biologen in sogenannten „Citizen Science“-Workshops in der Landschaft wie auch während seiner Ausstellungen in Galerien (Abb. 8).



(Abb. 7) Aviva Rahmani: Feuchtgebietssanierung, Performance Kunst und GIS (2012)

MC: Glauben Sie, dass sich manche Ihrer Doktoranden als eine Art Katalysator zwischen der Wissenschaft und der Öffentlichkeit betrachten?

JS: Zu einem gewissen Masse ja, aber alle sind verschieden und entscheiden persönlich, in wieweit oder ob sie als Vermittler oder Katalysator für wissenschaftliche Inhalte agieren wollen. **Juanita Schlaepfer-Miller** beispielsweise kommt von der visuellen Kommunikation. Sie arbeitet mit rituellen Kunstformen und versucht, Wissen (informal knowledge) beispielsweise durch Erzählungsriten von Bauern oder Gärtnern zu erfahren, um dieses für die Wissenschaften oder eine Öffentlichkeit verfügbar zu machen. So hofft sie auch, eine Beitrag zur umweltbewussten Verwendung von Ressourcenverwendung leisten zu können. Ihre Forschungsfragen kommen aus der Kommunikationstheorie, Soziologie, Kulturwissenschaft und Klimatologie.



(Abb. 8) Brandon Ballengee: Ökokunst, amphibische Biologie und "Citizen Science" (2008)

**Eugenio Tisselli** dagegen ist ein Design- und Computerspezialist, der Anwendungen erstellt beispielsweise für Bauern in Tansania . Er setzt Mobiltelefone in verschiedenen landwirtschaftlichen Szenarien ein, in denen der Klimawandel die Armut verschärft. So unterstützt er Bauern, damit diese selbstständig Datenbanken ihres Wissens anlegen können, um anhand ihrer Bilder, Tönen oder Texte ihre Informationen mit anderen Bauern, Wissenschaftlern und Benutzern ihre Probleme kommunizieren zu können. Diese Fallstudien werden Erfahrungen liefern, wie und ob mobile Technologien in armen landwirtschaftlichen Gemeinschaften den Menschen mehr Informationsaustausch und somit Macht geben können. **Juanita Schlaepfer-Miller** und **Eugenio Tisselli** haben also ganz verschiedene Ansätze, wie sie Wissen gewinnen oder verbreiten wollen.

MC: Das scheinen ja Untersuchungen zu eher soziologischen Ansätze zu sein. Sie haben aber doch auch Doktoranden, die sich als Künstler der Neuropsychologie oder der Psychologie annähern?

JS: Kunst und Neuropsychologie sind eine ideale Kombination, weil die Wahrnehmung im Mittelpunkt beider Disziplinen steht. Deshalb haben wir in unserer Gruppe auch **Nicole Ottiger**, die die Rolle des Körpers des Künstlers während der Konzeptphase, der Produktion und der Rezeption von Kunstwerken untersucht. Sie will beispielsweise untersuchen, wie unsere Wahrnehmung von Kunstwerken mit der rechten und linken Gehirnhälfte zusammenhängt. Ihr Zweitbetreuer kommt vom Mind Brain Institute der EPFL (Abb. 9). Die Designerin, **Sandra Hoffmann** erforscht die typografische Synästhesie. Sie untersucht, ob die Kombination aus visueller Kommunikation und Neuropsychologie Designern helfen könnte, verschiedene synästhetische Wahrnehmungen zu nutzen. Dabei konzentriert sie sich auf drei Formen von visuell-rezeptiven Phänomenen: die Grapheme-colour-Synästhesie, die Ticker-tape-Synästhesie und die Spatial-sequence-Synästhesie (Abb. 10). Jede dieser drei Arten hat entweder typografische Stimuli oder beruht auf typografisch-sensorischer Erfahrung und kann von den Neuropsychologen klassifiziert werden. **Nicole Ottiger** und **Sandra Hoffmann** bearbeiten relativ neue Forschungsfelder zwischen Neuropsychologie und Kunst.

MC: Untersuchen Ihre Doktoranden auch Themen zu Kulturtheorien und Soziologie ?

JS: Eine andere Doktorandin, **Teresa Chen**, legt ihren Schwerpunkt auf weibliche Künstlerpersön-



(Abb. 9) Nicole Ottiger: Körperliche Wahrnehmung, Virtual Reality und Kognition (2011)

lichkeiten (ost)asiatischer Herkunft, die heute in einem europäisch-amerikanischen Umfeld arbeiten und die in ihrer Arbeit kulturelle Unterschiede thematisieren. Hier untersucht sie Fragen zur kulturellen Identität, insbesondere im Hinblick auf Abstammung und Zugehörigkeit. Sie argumentiert, dass Künstler vergleichbare Strategien verwenden, um die Einflüsse kultureller Konnotationen auf das „Selbst“ sichtbar zu machen. Wie bei **Teresa Chen** kann man eigentlich bei allen Z-Node Doktoranden sagen, dass ihre Doktorarbeit direkt in Verbindung mit ihrer Kunstpraxis stehen. So ist das auch bei **Hung Keung** aus Hongkong. Er hat die Auswirkungen der sich stets in Veränderung befindlichen Kulturtheorien über Zeit und Raum von der Frühgeschichte Chinas bis in die heutige digitalen Welt mit Interaktivität erforscht. Er produziert sprachbasierte interaktive Plattformen, die mit Zuschauerrezeptionen experimentieren (Abb. 11). Er kooperiert dabei mit Einrichtungen der Wirtschaft, der Bildung und im Kunstkontext.

Receiving, collecting,  
explaining, describing, presenting, reflecting.  
Viewing perceptual experiences.

(Abb. 10) Sandra Hoffman: Typografische Synästhesie und Neuropsychologie (2012)

Seine Doktorarbeit hat in gewisser Weise etwas mit Ihrer Arbeit gemeinsam: Sie untersuchen ja in Ihrer Doktorarbeit den "Flughafen" als ein "Territorium" und **Hung Keung** hat das "Territorium Hongkong" als Gateway nach China gewählt.

MC: Ja, das stimmt, meine Arbeit beschäftigt sich mit der Architektur von Flughäfen und mit dem Arbeits- und Reiseverhalten von Vielreisenden und passt demnach auch in den Bereich der Kulturtheorie und Soziologie.

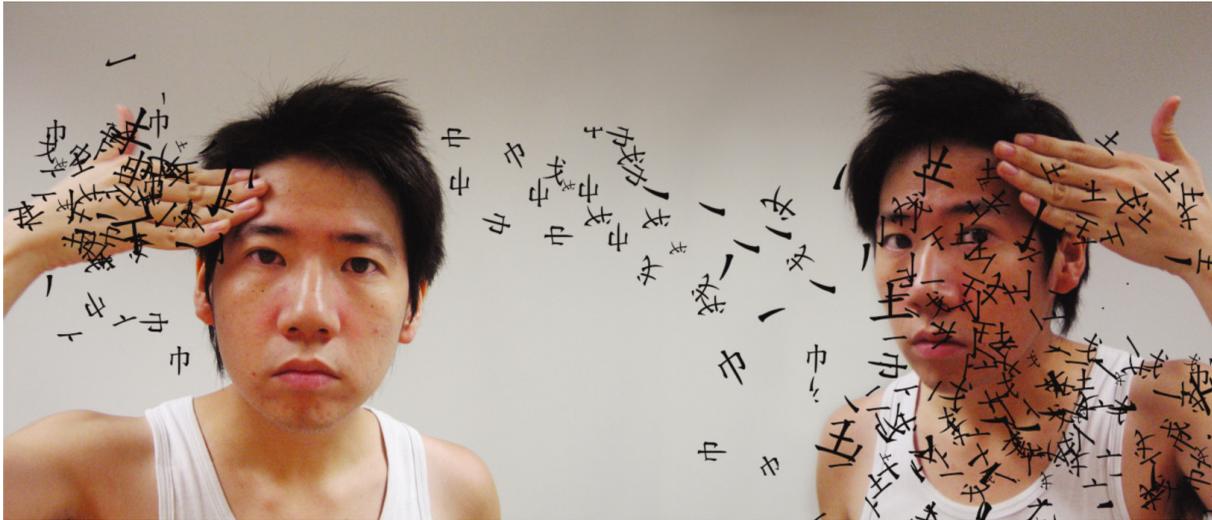
JS: Ja, in erster Linie, weil Sie als Architektin Theorien zur digitalen Kunst, zur Architektur und zur Verhaltenspsychologie erforschen. Es geht dabei auch um die sozialen und räumlichen Veränderungen und um neue Formen der Mobilität. Ich könnte mir vorstellen, dass Sie am Ende Ihrer Doktorarbeit Lösungen vorschlagen werden, wie Architektur mit Hilfe von Interaktionsdesign Räume in Flughäfen oder Bahnhöfen zu einem sozial verantwortungsbewussten Umfeld entwickeln könnte.

MC: Aus meiner Sicht als Z-Node-Doktorandin ist die Besonderheit unserer Betreuer, dass sie alle wissenschaftlich sinnvolle, interdisziplinären

Korrelationen in unseren Forschungsarbeiten unterstützen. Sie verfügen über ein umfassendes Wissen im Bereich der Kunstforschung.

JS: Als Betreuer halten wir uns nicht an die wissenschaftlichen Forschungsanlage, wonach der Professor das Thema für jeden Doktoranden festlegt. Das funktioniert nicht in der Kunst, weil unverwechselbare individuelle Forschungsansätze ungemein wichtig sind. Weil wir jedoch dazu auffordern, an der Schnittstelle zwischen Kunst und Wissenschaft zu arbeiten, wollen wir die Unterschiede und Gemeinsamkeiten der Forschungsansätze herausarbeiten. Wir wollen einheitliche Forschungsmethodologien erzeugen, die auf die Kunstpraxis anwendbar sind, und unsere Forschung soll zu mehr Zusammenarbeit von Kunst und Wissenschaft anregen. Das wird erst möglich sein, wenn die Künstler ihre Forschungen akademisch auf höchstem Niveau betreiben, damit sie im wissenschaftlichen Kontext ernst genommen werden!

MC: Interessant, wie oft Sie über die Bedeutung des akademischen Kontexts sprechen. In welcher Beziehung steht Z-Node zum dritten Zyklus der Bildungsreformen in Europa?



(Abb. 11) Hung Keung. Space/Time/Dao, Chinesische Kalligrafie und Digitalmedien (2010)

JS: Das gesamte Doktorandenprogramm von Plymouth, von dem wir ja als Z-Node ein Teil sind, ist ein Beispiel für den dritten Zyklus. Wir bieten Künstlern die Möglichkeit, über ihre praktische Arbeit zu schreiben, und ermutigen unsere Studenten dazu, andere thematische Zusammenhänge über ihre eigenen hinaus zu erforschen. Ähnlich wie das Artist-in-Labs Programm wollen wir, dass unsere Studenten über den von der wissenschaftlichen Forschung ausgehenden Wissenstransferprozess nachdenken. Wir ermutigen unsere Studenten, bei anderen europäischen Forschungsprojekten nach finanziellen Unterstützungsmöglichkeiten zu suchen, und bieten ihnen Empfehlungsschreiben und Referenzen, damit sie als gleichwertige Partner gemeinsam mit wissenschaftlichen Einrichtungen und Universitäten daran teilnehmen können. Beispielsweise hatten wir eine EU-finanzierte Kooperation mit anderen europäischen Instituten unter der Bezeichnung CLOSED.

**Karmen Franinovic** war im Rahmen ihrer Doktorarbeit in das Projekt eingebunden. (<http://closed.ircam.fr/>)

MC: Arbeiten Sie auch mit anderen Hochschulen zusammen, die ähnliche Programme ins Leben rufen wollen?

JS: Ja, gleich zu Beginn von Z-Node kamen Gastdozenten zu Besuch. Seitdem waren wir in jedem Jahr in einem anderen Institut zu Gast, um dort Seminare oder Minikonferenzen abzuhalten. Wir sind gerade von der Universität New Mexico zurückgekehrt, an der auch ISEA (The International Symposium on Electronic Art) stattfand. Davor waren wir u.a. an der Monash-Universität in Melbourne, der Nan-Young-Universität in Singapur und der Concordia-Universität in Montreal (Abb. 12: Foto Montreal). Anscheinend haben uns alle diese Universitäten eingeladen, um das Potenzial von Kunst-Doktorandenprogrammen zu diskutieren. Ich glaube deshalb, dass sie unseren



(Abb. 12) Die Z-Node-Gruppe, Concordia-Universität in Montreal (2007)

Besuch oft auch als Mittel nutzen, um ein internes Interesse am Aufbau eines Doktorandenprogrammes an ihrer Kunsthochschule zu wecken. Es gibt ein wachsendes internationales Interesse an der Kunstforschung und wir wollen einen internationalen Standard finden. Wir planen derzeit zusammen mit Universitäten in Warschau und Kopenhagen eine Konferenz über Kunst, Wissenschaft und Forschung, die nächstes Jahr stattfinden soll.

## **BETREUER Z-Node Doktoranden/ICS**

Prof. Dr. Jill Scott | Leiterin Z-Node, Co-Direktorin  
Artist-in-Labs-Programm, ICS der ZHdK

Prof. Dr. Matthias Vogel | Kunsthistoriker, ICS der ZHdK

Dr. Steffen Schmidt | Musikwissenschaftler, ICS der ZHdK

Dr. Daniel Bisig | AI and Sound Research, DMK der ZHdK

Dr. Angelika Hilbeck | Wissenschaftlerin, ICS, ETHZ

Dr. Andrea Gleiniger | Medien-Architekturhistorikerin,  
DMK

Prof. Dr. Stephan Günzel | Philosoph,  
Freie Universität Berlin

Prof. Dr. Therese Steffen | Kulturstudien,  
Universität Basel

Prof. Dr. Thea Brejzek | Szenografie, Universität Wien

Prof. Dr. Dieter Mersch | Philosoph,  
Freie Universität Berlin

Prof. Dr. Olaf Blanke | Labor für kognitive  
Neurowissenschaft, Ecole Polytechnique Fédérale (EPFL),  
Lausanne

### **Kontakt:**

Prof. Dr. Sigrid Schade, ICS  
Prof., Dr. Jill Scott  
Funktion, Vice Director – Z-node research PhD  
cooperation with the University of Plymouth. UK.  
Departement, ICS  
Jillian.scott@zhdk.ch



(FIG 1) Tiffany Holmes: Eco-visualization and wattage conservation (2009)

# ART AND SCIENCE RESEARCH@ZNODE

PHD-PROGRAM

LOCATED IN THE INSTITUTE FOR CULTURAL STUDIES IN THE ARTS  
ZHDK SWITZERLAND

**Z**

hdk

Zürcher Hochschule der Künste  
Institute for Cultural Studies in the Arts





(FIG 2) Kirsten Johansen: art for astronauts on (ESA) space flights. (2010)

## MONIKA CODOUREY INTERVIEWS JILL SCOTT ABOUT Z-NODE

It all began in 2004 as a PhD research collaboration between the Institute for Cultural Studies (ZHDK) and the University of Plymouth UK. At Plymouth, Roy Ascott has already graduated more than 60 students who were focused on the relationship between Art and Technology. In the beginning we in Z-node only had 5 student researchers but after four years we had 18 researchers. We now have 3 groups focused on cultural themes that relate to discoveries and discourses in life sciences, one of our main interests. The three groups are: the arts and environmental science, the arts and sociology, neuropsychology and in the last group, arts and computer science (including Artificial Intelligence).

MC: There seems to be a focus more on the natural sciences in Z.node than in Plymouth– why is that so?

JS: These are times of great ecological change, social mobility and controversies about human health just to name a few challenges, and artists find them interesting to investigate. I do think that researchers joined the z-node program because they wanted to raise awareness about these issues in society and they needed to have access to the facts from natural scientific research to back up their practical interpretations. Over the years of running the Artist-in-labs program we have accumulated second supervisors who are scientists like Dr. Angeklla Hilbeck, who works in the Institute for Integrated Biology on GMO risk assessment or we have Dr Olaf Blanke, a neurosurgeon who explores the concept of embodiment at EPFL. These scien-

tists are very open to discuss the potentials of art and design interpretations by artists. Some of our PhDs like **Tiffany Holmes**, **Monika Codourey**, and **Nicole Ottiger** actually became more interested to conduct further research of their own based on their residency experiences in the Artist-in-labs Program. Today, many topics that effect society are influenced by current scientific discoveries, and these artists and designers want their results to be scientifically robust in order to address various ethical and social issues accurately.

MC: But why should artist or a designer do a PhD about critical and ethical discourses in the sciences that effect society?

JS: Well “should” is very problematic word, but they might like to! Some artists and designers have feelings of responsibility to comment on social

and ethical perspectives from their subjective positions. The challenge is how to represent these controversies and interpret scientific discoveries. But they do seek to be inspired by scientists and their methodologies or their points of view! Our roles in z-node are certainly not to visualize science or advertise its research, but offer different aesthetic, process-oriented and alternative perspectives. A good dose of life experience helps: the researchers in our program are all between the ages of 35 and 65, They mostly want to make a PhD about the interface between art and science, so that they can experiment with a unique blends of trans-disciplinary theory and practice.

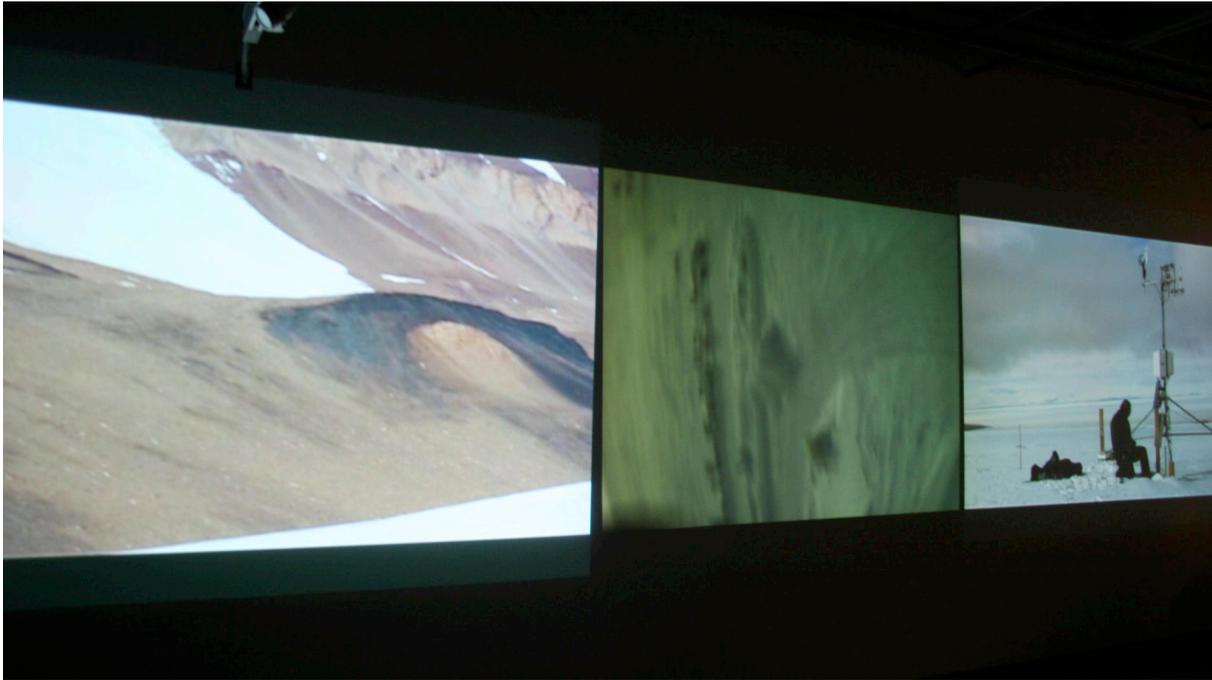
MC: In connection to this blend, what is a unique relationship between theory and practice in such a cultural environment?

JS: We encouraged many discussions about this relationship in our regular research meetings and decided that every student can find the relevant theories that best suit their own topic of study. We strive for diversity of opinion and so we teach artists to write academically about the surrounding context of their own work and leave a legacy for other art researchers to use as a reference in the future. Learning the art of debate in our research sessions helps develop new theories and find correlations to others, especially when the students all have to listen intensely to where another person is coming from. After each individual presentation we often have "questions-sessions" about the uncertainties and the complexities in the information that has been researched. We believe that "new knowledge" may be able to be found in cross-disciplinary challenges, particularly when learning is based on a physical experience inside scientific

environments where one is exposed to different methodologies than ones own. For example, what might art and science processes actually have in common if they share the aim to raise public awareness about climate change?

MC: Can you give me some examples of who has graduated and what "new knowledge" they have produced in relation to Environmental science?

JS: Mmm, in relation to art and ecology, the most difficult challenges for this cluster of researchers is to create new theories about relativism. The sheer scale of the problems we face on the environmental level only make this challenge harder! A comparison of art and science methodologies will need to be featured in this research! For example Andrea Polli (See FIG 3) conducted research about air pollution and applied an interpretative method she called "geosonification" to increase public awareness about global weather and climate monitoring and computationally modelled data. This was related to her direct experiences of creating and presenting location-based media art in in places like Antarctica. So she conducted comparative interviews with leading environmental scientists and meteorologists about their methodologies, in order to compare her own approaches to weather and climate. Another Artist, **Tiffany Holmes** designed her own eco-visualization software to promote resource conservation. (see FIG 1) This software gave users daily visual feedback from site-based media art thus elevating others understanding of resource consumption patterns, Her aim was to compare attitudes toward environmental stewardship in the workplace and in the arts so as to increase peoples conservation behaviour.

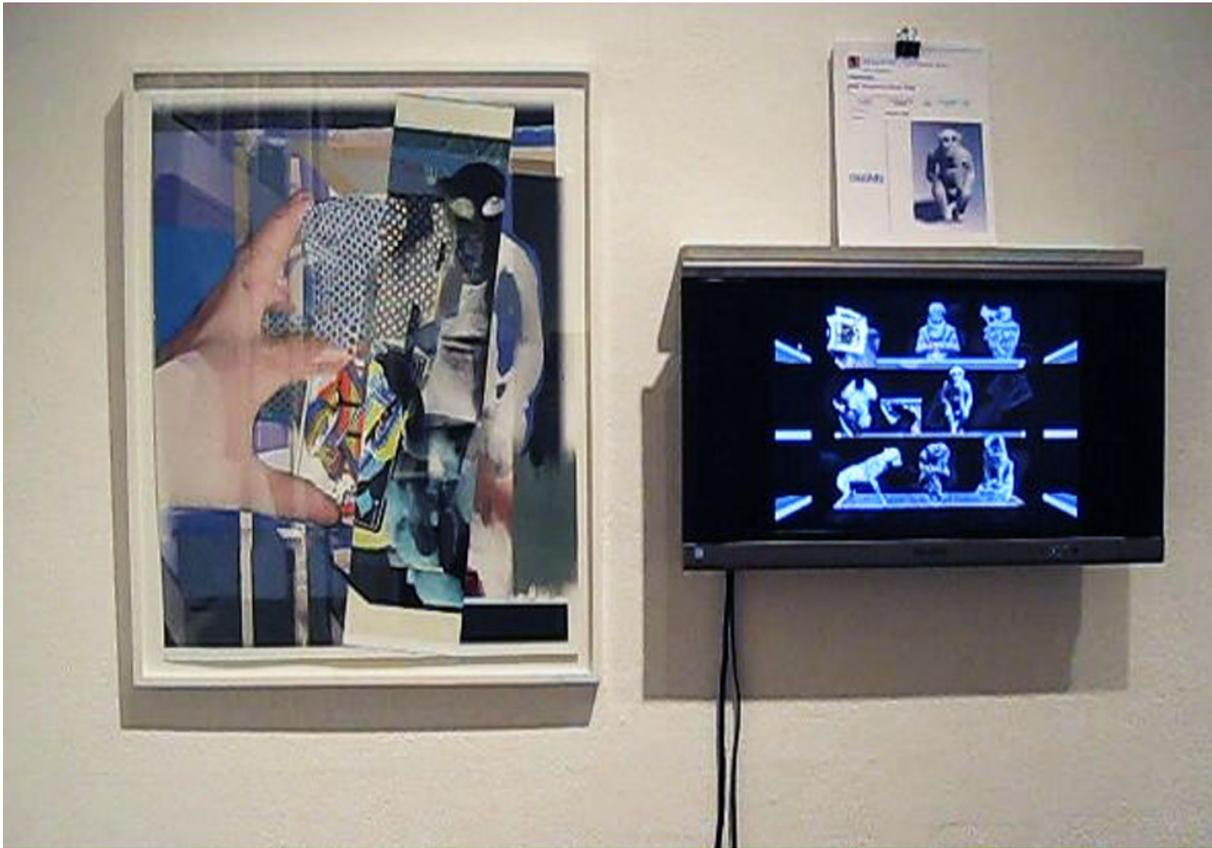


(FIG 3) Andrea Polli: Media art and the Air: Sonic Antarctica (2008)

MC: What about “new knowledge” in the group where fine art is actually mixed with Neuropsychology or Sociology?

JS: There have been four graduates in this group and for them it has been interesting to take a critical look at how experiments in neuroscience and psychology are built and what methodologies are used to confirm their hypothesis or analyse behaviour in an objective manner. One might even ask: how can the subjective nature of the arts influence scientists to form different approaches? One of our researchers, **Ellen Levy** made an enormous taxonomy of all the artists who had addressed the subject of “attention” in their work and compared these with scientific methodologies like those found in the clinical testing of ADHD or attention deficit. By combining the perspectives of

the neurobiological discourse about attention with analyses of artworks that exploit the constraints of the attentional system, she claimed that art offered a training ground for attention, including alerting, orientation, and executive control function. To this end she created her own art works in a gallery setting that questioned how norms of behaviour are defined and measured. (see FIG 4) In another research project by **Kirsten Johansen**, works of art were designed for astronauts on long-term space flights. With an aim to identify the aesthetic parameters for display of works of art on extended crewed missions, she developed novel working methods that could integrate the artist into the scientific process. By studying their psychology she began to create artworks that aimed to alleviate stress and help the astronauts with isolation and confinement. (see FIG 2) Because art in a space



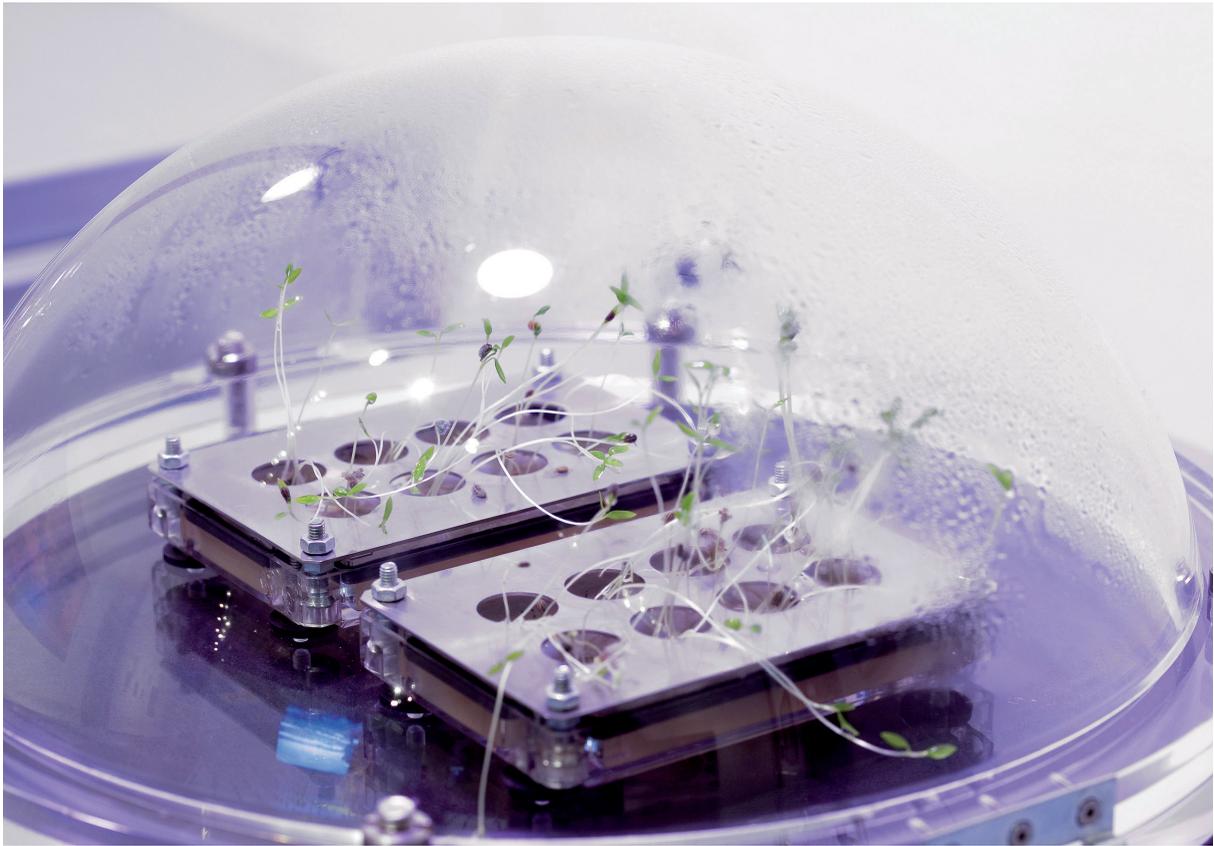
(FIG 4) Ellen Levy: Stealing Attention: art and neuroscience (2010)

capsule must follow the space agencies (ESA) demands of verifiability, safety, and reliability, and life sustaining behaviour she summarized these restraints for other artists in a manual.

MC: Well this brings up if social media can also help people connect in either isolated or networked environments. What about the other researchers in Z-node like Trebor Scholz and Juergen Moritz?

JS: **Juergen Moritz** scrutinized the level of intimacy that we have developed with smart objects particularly in our isolated homes because they urge us to rethink our capacity to act. Bruno

Latour once framed the wider social role of technologies as *res publica* or 'public things' (Latour 2005) inferring that technological 'things' do not only mediate our existence, but are places where these mediations are made explicit. Moritz extends this discourse for the designers of technology through theoretical comparison from a trans-disciplinary point of view, claiming that it is time to rethink this relationship. But for **Trebor Scholz** the contribution to new knowledge lies in a critical analysis of the Internet and its relation to labour. He started out his research examining people's motivations for online collaboration, particularly in the fields of political media activism,



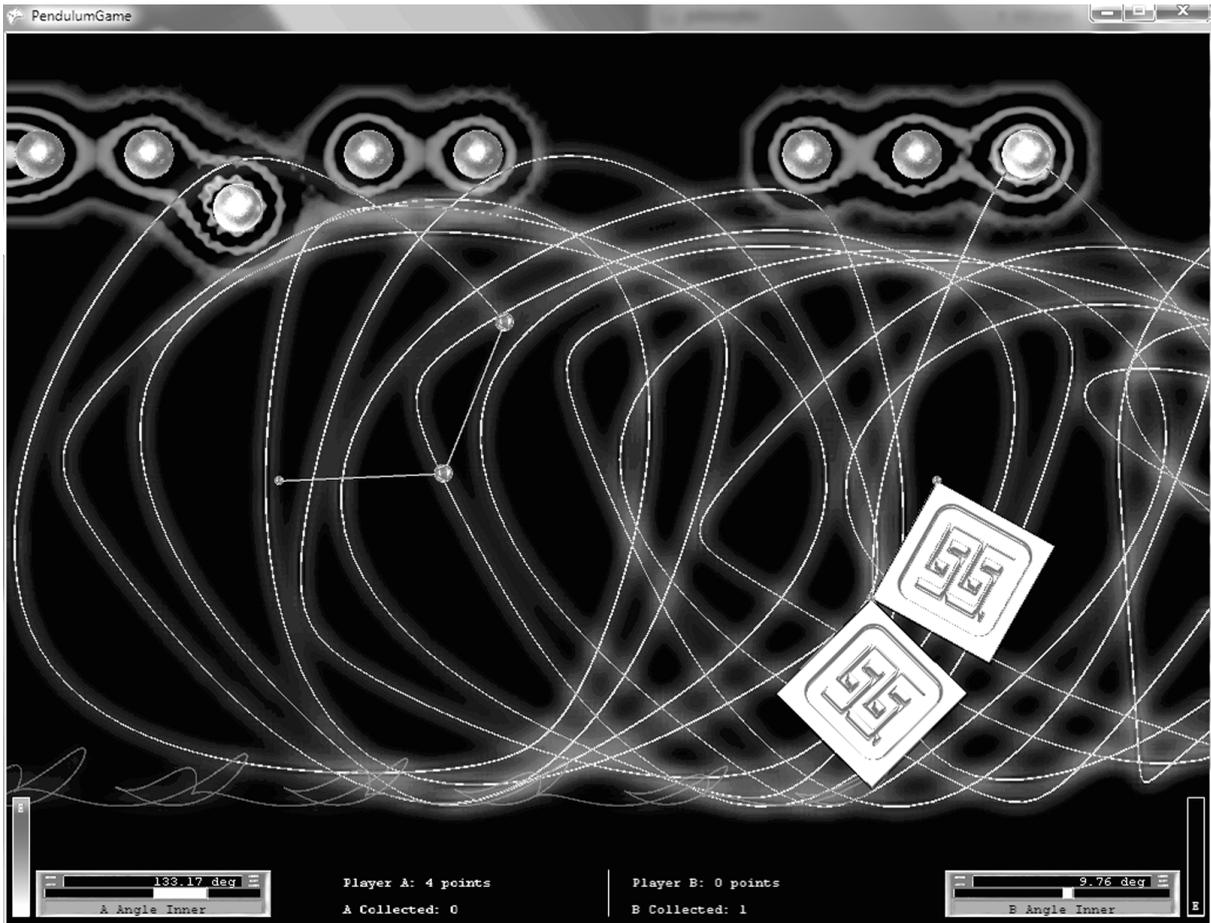
(FIG 5) Kirsten Johansen: art for astronauts on (ESA) space flights. (2010)

conference organization, networked cultural production and media education. This investigation led him to look at how cooperation-enhancing tools enable alternative economies and perhaps help us to rethink how offline civic participation also works. Recently, I saw a talk by him at the ZHdK where he outlined a set of strategies of resistance for social networkers, as well as a list of alternative sites where people are trying to make a difference to how their private information is used or how their preferences are collected.

MC: I imagine that it gets hard to differentiate artists from designers in research practices such as

these. Do you also have design researchers and if so what new knowledge is created here?

JS: Yes it is hard to differentiate the designers from the artists in our z-node group. The designers are perhaps more interested to explore the potentials of cross-modal interactivity and how current technologies could be expanded and humanized. But new knowledge will be found in the potential to combine the hard sciences with interaction design. For example: two of our graduates **Andreas Schiffler** and Karmen Franinovic have conducted research on the interface between design and hard sciences like physics

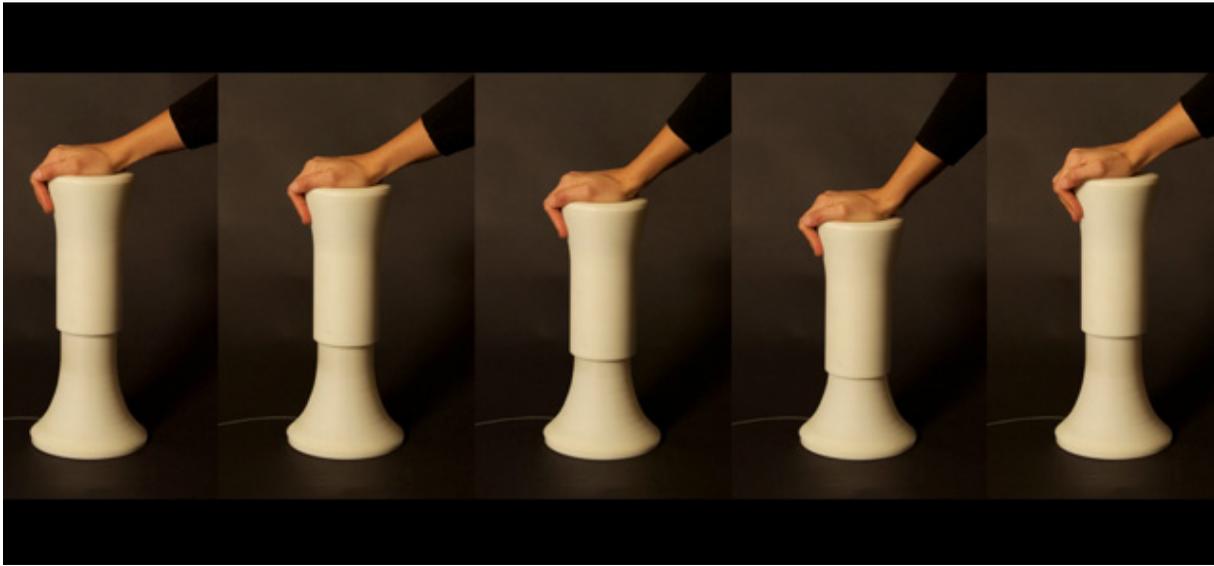


(FIG 6) Andreas Schiffler: game software for art and physics (2011)

and psychoacoustics. Andreas was actually a physicist earlier in his life, he turned to game design in 1995, and has since written many programs for media artists. He finished a dissertation called *New Game Physics*, an area of computer game design where physics is applied in interactive computer software (see FIG 6) In it he proved that trans-disciplinary approaches provide significant value, particularly between game developers, artists and physicists. He found novel ways to incorporate physics into games. The applicability

and user impact of such new game physics across these target audiences was thoroughly examined. I think his study provided new material to address discrepancies in game theory and in digital media design.

**Karmen Franinovic** is a sound designer who works here at the ZHdK. Her research into *Sonic Interaction Design* (SEE FIG 7) featured psychoacoustics where new findings about sensorimotor contingencies, could change the way in which we understand human interaction in everyday environments. In her dissertation she set up a



(FIG 7) Karmen Franinovic: Sonic Interaction Design and Psychoacoustics (2011)

foundation for a new realm of design that is focused on sound that engages sensorimotor experiences. This has been sadly neglected within the existing design practices. Her premise was that such a foundation can be best developed if it is grounded in trans-disciplinary methods that bring together scientific and design approaches. Her seminal workshops can provide other designers with a number of new collaborative methods and strategies and encourage connections between different disciplines. She also hopes that her results will be used, shared and extended by other design researchers.

MC: Who are the second supervisors for these students. Isn't it someone from the AI lab here in Zurich?

JS: Both of these students PhDs dissertations were second supervised by **Dr. Daniel Bisig**, whose background in Artificial Intelligence and

sound, produced valuable feedback for their concepts. Also Dr. Rolf Pfeiffer from The Artificial Intelligence Lab was an external advisor for **Louis Philippe Demers**, a robotic designer who is pursuing theoretical research and artwork on robots as a form of "expressive media". He explored the theories of audience identification, performance and spectacle. I think he hopes that his research on the history of automata and machines will shed light on the reasons why we are fascinated by mechanical representations of performers. He suggests that a comparison between theatre and AI, might empower new theatrical design strategies.

MC: What about your current students what kind of research are they doing now?

JS: Well, we still have 10 students to graduate. We still have our three themes but we are collaborating much more with science labs like the Institute for Intergrated Biology at the ETHZ or The



(FIG 8) Aviva Rahmani: Wetlands restoration, performance art and GIS (2012)

Mind Brain Institute at EPFL (Neuropsychology) in Lausanne. In the first case, Dr. Hilbeck works with students in our group like **Aviva Rahmani**, **Brandon Ballenge** or **Eugenio Tallessi** on environmental science. For example, **Aviva Rahmani** is a Conceptual artist working on Wetlands restoration and she integrates performance art and geographic information systems (GIS) in her artwork. (see FIG 8) Rahmani renovated a piece of coastal wetland: a former town dump, on a remote fishing island in the Gulf of Maine. Currently she is in the process of assessing the problems through scientific evidence and detailing her own design models to apply to other degraded environmental sites. Another New York artist, **Brandon Ballengee**, investigates if combinations of art and wetland biology can effectively increase public understanding of environmental phenomenon. His aims are to develop temporary laboratory and field-based research investigations, but he himself is actu-



(FIG 9) Brandon Ballengee: eco art, amphibian biology and "citizen science" (2008)

ally generating scientific data. It's about the ratios of amphibian deformities and their potential problems in two continents, through collaboration with public and other participating biologists. He actually engages the public in "real" biology through "citizen science" workshops, fieldtrips, and gallery exhibits. (see FIG 9)

MC: Do you think that other art researchers see themselves as a kind of catalyst between science and the public?

JS: Yes but I think that each researcher has to personally decide about the type or definition of this translation. On the one hand, we have **Juanita Schläpfer Muller**, who is fascinated by visual communication and the challenges of ecological novelty from a trans disciplinary art and science practice-based perspective. She works with ritual art models and informal science learning for scientific experts



(FIG 10) Nicole Ottiger: bodily perception in VR and cognition (2011)

and non-experts and hopes that environmental awareness can translate into behavioural change about the use of resources. She is drawing on communication theory, sociology/cultural studies, art education theory, and cultural geography as well as climate science. On the other hand, Eugenio Tasselli is a designer and a computer scientist with a focus on localized observations and adaptation strategies. In his research project, a set of mobile phones are being deployed in different farming communities in which the threats posed by climate change are aggravated by poverty. He hopes to enable farmers to build a database of their knowledge and to communicate with other farmers, scientists and the general public using images, sounds and text. These case studies will provide the evidence and experience in order to determine in which ways these tools might empower farming communities. So you see these researches represent two different types of roles and for different audiences.

MC: Seems like these students are really mixing their own art methods with ones from sociology: don't you still have some researchers who are especially focused on methods from neuropsychology or psychology?

JS: Well I do think that art and neuropsychology are a very natural coupling because perception lies at the heart of both disciplines. So in this z-node group we have people like **Nicole Ottiger**, who is exploring the role of the body of the artist in the conception, execution and appreciation of art making and how our perception of art works is linked to the right and left hemisphere of the brain. Her advisor is from the Mind Brain Institute at EPFL. (See FIG 10) Another designer, **Sandra Hoffman** conducts research on Typographic Synaesthesia. She explores if the coupling of visual communication and neuropsychology could help designers address different approaches and perceptions about synaesthesia. In this light she focuses on three forms of visual perceptive phenomena: 1. Grapheme-colour, 2. Ticker tape and 3. Spatial sequence synaesthesia. ( See FIG 11) Each of these three types has either typographic stimuli or typographic sensorial experience and these can be classified by neuropsychologists. As far as I know both of these researchers are delving into relatively new fields of exploration between neuropsychology and the arts.

MC: What about cultural theories and sociology?

JS: Another art researcher **Teresa Chen** is interested in the social and psychological conditions of a similar displacement and the focus of her research is on women artists of (East) Asian descent located in a Euro-American context, who



Receiving, collecting,  
explaining, describing, presenting, reflecting.  
Viewing perceptual experiences.

(FIG 11) Sandra Hoffman: Typographic Synaesthesia and neuropsychology (2012)

explored cultural differences in their work. Here she hopes to reveal alternative perspectives that challenge previous notions about cultural identity, especially with regards to origin and belonging. She cites that similar concerns and strategies are used by artists to address the influences of cultural connotations on "the self". In our group the viewpoint of studies like these are always based on the artists own practice. In a similar way Hung Keung directly focuses on the effect of transforming cultural theories about space and time from Ancient chinese history into his own digital interactive environments. He creates language based interactive platforms that study the effect this transformation will have society. (See FIG 12) He also identifies the future opportunities for cooperation with the business, cultural, social, educational, and public sectors. But like your own research on the territory of the airport, his is the territory of Hong Kong as a hub for travel to China.

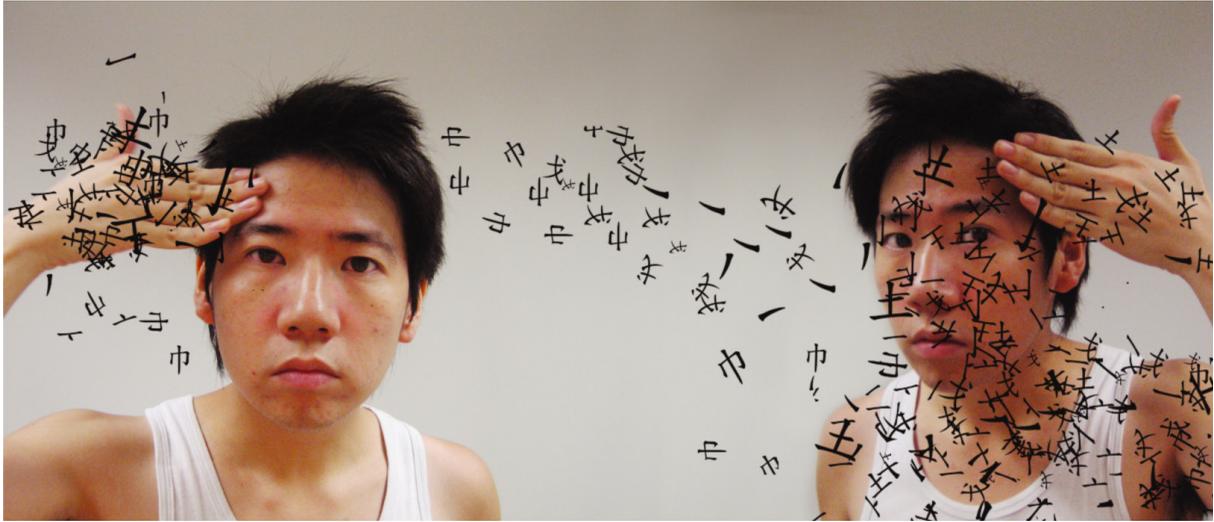
MC: Actually my own focus is on architecture and the psychology of work and travel, so I guess also I fit into this category of sociology?

JS: Yes, You do fit here, especially because you are an architect who is focusing on the relation-

ship between mobility, constant travellers and the workplace. By drawing theoretical elements from both digital art and architecture and you have already found many correlations between emerging socio-spatial transformations and new forms of mobility. I imagine that you will uncover how architecturally situated interaction design can establish these spaces as a socially responsive environments. I also think that in terms of mobile technologies and space there are some correlations to Trebors PhD on the Internet and Labour that I described earlier!

MC: I guess the trick for the supervisors is to see where the correlations do actually connect the research together? That is quite a variety of art research on ethical technical, social and neuropsychological levels!

JS: Well as supervisors we are not following those scientific research rules wherein the Professor determines the topics of each graduate student. This will not work in the arts! Unique individual approaches to research are too valuable. However, because we require a focus on the interface between art and the science, we do share a desire to identify the differences and similarities between



(FIG 12) Hung Keung. Space/Time/Dao, Chinese calligraphy and digital media (2010)

the researches. We also want to create unique sets of research methodologies that might apply to art practice. Also, we all think our research should encourage further collaboration between art and science contexts. This might not happen unless the research that artists conduct is academically rigorous enough to be taken more seriously in the science context!

MC: Interesting how you often talk about the importance of different academic contexts. What is the relation of z-node to the third cycle of education reforms in Europe?

JS: Actually the whole Plymouth Graduate program is an example of The Third Cycle, because we offer artists the opportunity to write about their practice and encourage that the students explore other thematic contexts than their own. Also because of our close connection to the Artist-in-Labs program, we require that our students reflect on their own know-how transfer

experiences in scientific research. We encourage the students to search for funding potentials with other European research projects and offer supportive letters and references, for them to become partners with science institutions and universities as equal partners. For example we had a EU cooperation called: CLOSED and **Karmen Franinovic** was involved the project as part of her PhD. (<http://closed.ircam.fr/>)

MC: Don't you also collaborate with other schools that want to create similar programs?

JS: Yes right from the beginning of z-node, we had a visiting scholars program and each year another institute invited us to come and give seminars or mini-conferences in these locations. We just returned from New Mexico University (who also hosted ISEA - The International Symposia on Electronic Art) before that we were at Monash University in Melbourne, Nan Young University in Singapore and Concordia University in Montreal,



(FIG 13) The Z-node Group, Concordia University in Montreal (2007)

(See FIG 13-Montreal photo) to name just a few. It seems that all of these universities invited us to discuss the potentials of PhD Programs in the arts, so I think that they used our visit as a way to raise internal interest in collaboration and debate. There is a growing international interest about the nature of research in the arts and we aim to help identify an international standard. We are currently working on a conference about art, science and research in conjunction with Warsaw and Copenhagen to be held next year.

MC: You suggested earlier that most of your students want to leave some kind of legacy for other art researcher to draw upon. Where can those others read and explore Z-node research?

JS: Actually all the printed final dissertations from Z-node are available in the ZHdK Library for on-campus loans. But there is also in e-thesis from each one available at the University of Plymouth. (<http://pearl.plymouth.ac.uk/handle/10026.1/272>) Beside these lodgings of their dissertations, the Z-node researchers are already publishing in many related publications and journals. We think that co-publishing might help this debate. So one of our current book series called Transdiscourse is with Monash University. Transdiscourse is a book series based in our z-node group – a contract with Springer/Vienna/ New York. We are planning to also have an exhibition of this Z-node research in the ZHdK Diploma show in May 2013.

## Information

ALL copies of the Z-node final Dissertations can be found in the ZHDK Library. Also the Transdiscourse Book

### **SUPERVISORS- Z-node ICS**

Prof. Dr. Jill Scott | Vice Director Z-node,  
Co-Director Artist in Labs Program ICS ZHdK

Prof. Dr. Matthias Vogel | Art Historian - ICS ZHdK

Dr. Steffan Schmidt | Musicologist - ICS ZHdK

Dr. Daniel Bisig | Artificial Intelligence  
and Sound Research - DMK ZHdK

Dr. Angelica Hilbeck | Scientist - ICS/ETHZ

Dr. Andrea Gleiniger | Media Architecture  
Historian DMK

Prof Dr. Stephan Guenzel | Philosopher  
Berlin Free University

Prof. Dr. Therese Steffen | Cultural Studies - Uni Basel

Prof Dr. Thea Brejzek | Scenography  
University of Vienna

Prof. Dr. Dieter Mersch | Philosopher  
Berlin Free University

Prof. Dr. Olaf Blanke |  
Laboratory of Cognitive Neuroscience  
Ecole Polytechnique Fédérale de Lausanne

### **Contact:**

Prof., Dr. Jill Scott  
Funktion, Vice Director – Z-node research PhD  
cooperation with the University of Plymouth. UK.  
Departement, ICS  
Jillian.scott@zhdk.ch

**COMPILED BIOS AND ABSTRACTS:  
CONFERENCE: MODELS OF DIVERSITY  
February 19th and 20<sup>th</sup> 2016**

**INFORMATION AND MODERATION:**

*8:30 am, 19<sup>th</sup> of February*

**ANGELIKA HILBECK**, Senior Scientist, Institute of Integrative Biology, ETH Zurich, Switzerland and **JILL SCOTT**, Professor in the Institute of Cultural Studies in the Arts, at the Zurich University of the Arts, Founder of the Artists-in-Labs Program and Vice Director of the Z-Node PHD program on art and science at the University of Plymouth, UK.

**WELCOME ADDRESSES**

*8:40 am, 19<sup>th</sup> of February*

**TOM PETERS**, Head of the Department of Environmental Systems and Professor for Atmospheric Chemistry at the Institute for Atmospheric and Climate Science, ETH Zurich and **SIGRID SCHADE** Head of the Institute for Cultural Studies. Zürcher Hochschule der Künste (ZHdK)

**KEYNOTE**

*8:50 am, 19<sup>th</sup> of February*

**IGNACIO CHAPELA**, Microbial Ecologist, University of California, Berkeley, CA, USA; currently: Visiting Professor, Institute of Integrative Biology, ETH Zurich, Switzerland (sabbatical)

**KEYNOTE: Professor IGNACIO CHAPELA**

**ABSTRACT: IGNACIO CHAPELA**

This One World Today—and the Models we Make of Ourselves

When re-presentation fails, imagination re-creates. The laboratory, the workshop, the space of exhibition, the field, reconstitute realities not only as microcosms, but as perceptual intelligence that cannot but sustain itself, desperately, on the evanescent understanding of the moment. The Situation: here, now, among us and our beloved. In comprehensible scales of Space, Time, Phylogeny. What can be said, what ought to be said, by the expert—the Artist, the Scientist, the Technician? What ought she do? And when this is said and done, then among whom? For whom? And wherefore?

Beyond the normative and moral understanding of our role as modellers and meaning-makers, an aesthetics—and with it an ontology—binds us together, and so does it bind our models. The practice of art and science (opposed indeed to Art and Science), I argue, tests the limits of this aesthetics: it simultaneously shows its precariousness and potential for mass-delusion, as well as its powerful liberating power.

**BIO**

*Ignacio Chapela is a Microbial Ecologist, from the University of California, Berkeley, CA, USA; currently: Visiting Professor, Institute of Integrative Biology, ETH Zurich, Switzerland (sabbatical). Ignacio Chapela is a microbial ecologist dedicated to the understanding of the ways of life of invisible life forms and their interaction with the world of humans. He teaches and does research as a Professor at the University of California, Berkeley, but is currently based at the ETH in Zürich. He has worked in academia, industry, inter-governmental and non-governmental organizations, but he has also participated with indigenous communities in Latin America on projects based on the visualization and re-valuation of invisible (microbial) life forms in forest ecosystems. His work performance has required multiple cross-interactions with the work of artists, from several film productions (most recently *The Symphony of the Soil*), to gallery- and performance- art projects (most recently with *Future Farmers in Oslo*, *Extra City Kunsthall in Antwerp*, the *Kaai Theater Brussels* and the *San Francisco Museum of Modern Art*). As a Biologist, he pursues new methods and techniques for the distributive identification, monitoring and mapping of microbial life forms by common-folk such as farmers, city-dwellers and those interested in wilderness areas.*

**DAY ONE 19<sup>th</sup> of February 2016**  
**ART/ ENVIRONMENTAL SCIENCE AND BIOLOGY RESEARCH**

**Resources 1 - Healthy Water Quality**

9:30 am, 19<sup>th</sup> of February

**MODERATOR:**

**ANGELIKA HILBECK**, Senior Scientist, Institute of Integrative Biology, ETH Zurich, Switzerland.

**SPEAKERS:**

**TIFFANY HOLMES**, Media Artist, Professor in the Art & Technology Studies Department Chicago Art Institute, USA & **CRISTOPHER ROBINSON**, Senior Scientist, Biologist, Vice chair, Department of Aquatic Ecology, EAWAG, Zurich-Dübendorf, Switzerland

**TIFFANY HOLMES**

**ABSTRACT**

Artists and designers are crucial to navigating the deluge of information accumulating in the cybersphere. Creative practitioners are exploiting data sets to create novel experiences for viewers—these experiences provide new educational strategies to transmit key messages about environmental issues. Many artists and designers are permanently in search of the technological sublime to tell a new story with data. The sublime is something that exceeds the ordinary and overwhelms our capacity to fully comprehend a natural phenomenon such as the water quality of a lake or river. In the case of the technological sublime, a data set can be reformed materially to temporarily overcome our perception of the numbers—thus an algorithmic transformation may prove capable of drawing us closer to the universe of numbers or possibly provide deeper meaning and/or emotional impact to the infinitely expanding sets of data in our world, especially significant environmental information. The overall aim of this presentation is to define the technological sublime, develop a listing of associated criteria to identify it, and provide examples of creative data visualizations that focus on environmental issues as a resource for teaching and learning.

**BIO**

*Tiffany Holmes is a media artist and educator whose work demonstrates the potential of art and technology to promote environmental stewardship. Studio projects include commissions for the National Centre for Supercomputing Applications and the Museum of Contemporary Art Chicago where sequences of experimental animations visualize real time energy loads. Her paper detailing this work, "Eco-visualization: Combining art and technology to reduce energy consumption," won a Best Paper award at Creativity and Cognition 2007 and a doctoral degree in 2010. Holmes currently works as the Dean of Undergraduate Studies and is Professor of Art and Technology Studies at the School of the Art Institute of Chicago.*

**CHRISTOPHER ROBINSON**

**ABSTRACT**

**Visions of Water Quality** The quality of our surface waters is often transparent. Water can look pure yet be toxic to life. The quality of water transcends a simple observation that the water looks and smells clean or dirty. An objective scientific view of water transcends multiple spatial (point-source verses non-point source) and temporal dimensions (pulse versus press disturbances). A typical stream network flows through a landscape that integrates multiple anthropogenic inputs that inherently degrades the quality of surface waters downstream that often leads to biological impairment. Monitoring the quality of freshwaters occurs under standard operating procedures recording dissolved solutes, temperatures, sediment loads, and flows. Biological monitoring involves collections of organisms from bacteria to fish, often transforming records into indices of health that are correlated with water quality. These indices are viewed as simple numbers registering good or bad or something in-between. Art can add a dimension of communication that transcends scientific jargon and enhances public cognizance. Art can visualize the scientific gradients found in water quality and can be explanatory on water quality effects to the non-scientist. A better understanding of water quality can be found in the integration of Art with Science.

**BIO**

*Christopher Robertson is a senior research scientist at EAWAG/ ETHZ and serves on the board of the Scientific Research Commission, Swiss National Park, Zerne, His research focus is the Ecology of alpine and temporary streams, the population genetics of alpine insects and disturbance ecology,*

His is also interested in colonization dynamics, nutrient dynamics, fire ecology, organic matter processing, patch dynamics and algal ecology. He runs a research program in the Swiss National Park on 1) the effects of experimental flooding on streams downstream of reservoirs and 2) long-term biomonitoring of the Macun Lake Biosphere.

### **Resources 2: Healthy Air Quality**

**10:30 am, 19<sup>th</sup> of February**

#### **MODERATOR:**

**CHRISTOPH KUEFFER:** Ecologist, Professor for Urban Ecology, Department of Landscape, Architecture, University of Applied Sciences Rapperswil & senior scientist, ETH Zurich, Switzerland.

#### **SPEAKERS:**

**ANDREA POLLI**, Sound Artist, Professor at Mesa Del Sol Endowed, Chair of Digital Media and Director of the Social Media Workgroup (SMW) at the University of New Mexico, USA & **ANDREAS FISCHLIN**, Prof. em Scientist, Head of the Terrestrial Systems Ecology Group Institute of Biogeochemistry and Pollutant Dynamics (IBP) of ETH Zurich, Switzerland

#### **ANDREA POLLI AND ANDREAS FISCHLIN COMBINED ABSTRACT:**

**Are You Becoming Radicalized?** The presenters, **ANDREA POLLI** and **ANDRES FISCHLIN** will give a three part contribution, approaching the topic of Public Art and Activism between Climate, Culture and Information Space first from two different angles, a scientific and artistic one, ending in an amalgamation effort. As has been seen in recent tsunami and hurricane disasters, many lives depend on the interpretation of global information. Part of that interpretation must include the work of artists. The artistic process of transforming data comes with the advantage of representations that can be entered, explored and transformed. Various points of views under different conditions can be replayed. A simulation may precede or even cause events. Art has typically a strong impact through touching the audience's emotions, which can affect environmental understanding and behaviour. Given the urgency to mitigate global climate change, this has become critically important. Artist and scholar Polli discusses her journey towards activist art related to environment and climate change, including the creation of The Social Media Workgroup (SMW) and her research lab at the Centre for Advanced Research Computing at the University of New Mexico. Ecosystems provide services for the well-being of humans for free to a degree that at least doubles global earnings from civilization. It is scientifically well acknowledged that biodiversity, despite remaining a somewhat elusive concept, is of pivotal relevance in this context. Anthropogenic air pollutions have begun to reduce the health of environments leading to climate change, ocean acidification, and eutrophication. These threaten biodiversity. A range of diversity models is presented and it is shown that biodiversity exhibits particular patterns across the globe, which call for a thorough understanding. The latter becomes increasingly critical, notably in face of the future of biodiversity, which many authors nickname the 6<sup>th</sup> mass extinction. This part ends in scientist Andreas Fischlin discussing perspectives for future biodiversity with respect to chemical changes of the atmosphere and the concomitant climate change. In a third part commonly presented by both presenters, ideas from the first two parts are demonstrated in various forms such as sonifications from scientific simulation data or otherwise artistically transmogrified forms including audience participation.

#### **BIO**

**Andreas Fischlin** is Professor Emeritus for Biology and Systems Theory. He has researched ecosystems in a changing climate and has published numerous scientific works. He taught at ETH Zurich systems ecology and computer science and played a leading role in the design and formation of the novel Department of Environmental Systems Science at ETH Zurich. He worked for the IPCC in various roles, which made him a co-recipient of the Nobel Peace Prize as awarded to IPCC in 2007. Representing the science community he has participated for 17 years in all UNFCCC negotiations and served recently as Co-Facilitator of the Structured Expert Dialogue, hereby contributing to a new science-policy interface. As IPCC Vice-chair WGII he is currently busy in preparing the next IPCC Assessment Report. Andreas Fischlin is also an active musician. He has pioneered the use of cello in rock and is playing e-bass and e-cello in a band regularly touring Scotland

#### **BIO**

**Andrea Polli** <[www.andreapolli.com](http://www.andreapolli.com)> is an artist and scholar working at the intersection of art, science and technology whose practice includes media performance and installation, public interventions, curating and editorial, directing and writing. She currently is an Associate Professor in Art and Ecology with a joint appointment between Fine Arts and Engineering, the Mesa Del Sol Endowed Chair of Digital Media, and the Director of the Social Media Workgroup at the Centre for

*Advanced Research Computing at The University of New Mexico. She holds a doctorate in practice-led research from the University of Plymouth in the UK and a Master of Fine Arts in Time Arts from the School of the Art Institute of Chicago. Polli has been creating media and technology artworks related to climate since 1999, when she first began collaborating with atmospheric scientists on sound and data sonification projects. Among other organizations, she has worked with the NASA/Goddard Institute Climate Research Group and The National Endowment has funded the National Centre for Atmospheric Research and her artwork and research for the Arts (NEA), The National Science Foundation (NSF) and Fulbright.*

### Knowledge Part 1: Resilience

11:45 am, 19<sup>th</sup> of February

#### MODERATOR:

**IGNACIO CHAPELA**, Microbial Ecologist, University of California, Berkeley, CA, USA. ( See Biography below)

#### SPEAKERS:

**AVIVA RAHMANI** an Affiliate at INSTAAR Gulf to Gulf project. Boulder, Colorado USA & **CHRISTOPH KUEFFER** Ecologist, Professor for Urban Ecology, Department of Landscape, Architecture, University of Applied Sciences Rapperswil & senior scientist, ETH Zurich, Switzerland

#### AVIVA RAHMANI

##### ABSTRACT

The 2007 work shown in *Models of Diversity* exemplifies how I used a freehand visual analysis to contribute towards modelling resilient biogeographic relationships. The completed *Ghost Nets* restoration work was being monitored for change between 1997 and 2007, and compared to other sites. The visuals conceptually explored how effecting one small “nuclear,” site might become a marine “trigger point,” in the Gulf of Maine and points south. Since 2008, I have called this practice, “performing ecology,” work at a confluence of science, art and life. The goal is to identify small points in large systems, where attention might effect changes to bioregional complexity. In over twenty one-hour *Gulf to Gulf* (2009- present) webcast sessions, viewed from eighty-five countries, my conversations with scientists explore where ecological restoration in concert with art, might mitigate climate change. The *Blued Trees symphony*, is a 16-month long five-part multi-site international project that is both acoustic and spatial and has emerged from these researches. *Blued Trees* is a synesthetic compositions, on land under threat of condemnation and appropriation to effect new fossil fuel infrastructure. It is in various stages of installation and copyright registration at twenty sites, encompassing several kilometres of habitat in the path of natural gas pipelines. This work realizes *Gulf to Gulf*'s mission to explore how art might change climate change policy.

##### BIO

Ecological artist **Aviva Rahmani** is an Affiliate at the Institute for Arctic and Alpine research (INSTAAR), UCB, and has her PhD dissertation, “Trigger Point Theory as Aesthetic Activism,” from Plymouth University, UK. Her current project, *Blued Trees*, addresses earth rights. Previous ecological art projects resulted in the restoration of a former dump site to a flourishing wetlands system *Ghost Nets* 1990- 2000 ([www.ghostnets.com](http://www.ghostnets.com)) and helped catalyze a USDA expenditure of \$500,000. to restore 26 acres of critical wetlands habitat (the *Blue Rocks* project 2002-5) in the Gulf of Maine. She was awarded a National Endowment for the Arts (NEA) Ecology Residency with the International Studio & Curatorial Program (ISCP) to work on the Newtown Creek superfund site in 2015. Rahmani received an Arts and Healing Network 2009 award for her work on water. In 1999 and 2000 Rahmani received the Nancy H. Gray Foundation for Art in the Environment grant.

#### CHRISTOPH KUEFFER

##### ABSTRACT

**Redesigning nature:** Climate change, urbanization, invasive species, or ecosystems eutrophication are causing fundamental anthropogenic changes. Increasingly ecologists are assuming that ecosystems need to be adjusted through targeted new design concepts to deal with these changes. Concepts such as ecological design, intervention ecology, re-wilding, resurrection ecology or assisted migration, reconciliation ecology are new terms that propagate interests in various forms of re-designing nature. I will discuss the ongoing paradigm shifts in the science of ecology and practice of nature conservation, and asks question such as: How are the changing relationships between humans

and “nature” represented today? What is the definition of “nature” in the future and how do concepts of design influence how scientists think about nature and the design of nature?

#### BIO

**Christoph Kueffer** received a PhD in plant ecology and a habilitation in plant and global change ecology from ETH Zurich (Switzerland). He holds a professorship in urban ecology at the Department of Landscape Architecture of the University of Applied Sciences Eastern Switzerland and is a lecturer (Privatdozent) at the Department of Environmental Systems Science at ETH Zurich. His work focuses from both a disciplinary and transdisciplinary perspective on the ecology of ecosystems that are strongly shaped by humans such as urban ecosystems or heavily disturbed ecosystems on oceanic islands. More information: <http://www.geobot.umnw.ethz.ch/staff/kueffer/>

### Knowledge Part 2: Agriculture

1:45 pm, 19<sup>th</sup> of February

#### MODERATOR:

**PAT BADANI**, Artist, NMC Board of Directors' Officer, Editor-in-Chief *Media-N*, Journal of the New Media Caucus, Canada (see biography below).

#### SPEAKERS:

**EUGENIO TISELLI**, Artist, Writer and Programmer, Founder of the interdisciplinary project *ojoVoz*, Mexico & **ANGELIKA HILBECK**, Senior Scientist, Institute of Integrative Biology, ETH Zurich, Switzerland

#### EUGENIO TISELLI

##### ABSTRACT

Participatory research methodologies not only require the integration of theories and practices coming from different disciplines and systems of knowledge, but also a strong and contextualized awareness of ethics. It is not uncommon to find that participatory initiatives implement forms of participation that are purely nominal. Furthermore, such frameworks for participation often bypass the complexities of the social, cultural and environmental contexts that exist in the communities where they are implemented. I will illustrate these problematic aspects of participatory research and development initiatives by analysing a number of case studies in the field known as e-Agriculture. To circumvent merely rhetorical participation and the lack of awareness of local contexts, I will argue that it may be necessary to introduce ethical consideration in the design of participatory methodologies. Moreover, I will propose that artistic intervention may constitute a particularly fruitful framework from which to develop and implement such methodologies. To illustrate these claims, I will present two different case studies that were developed as artistic interventions in small-scale farming communities. These case studies followed the ERV (Enabling Reciprocal Voice) Methodology, which I specifically designed for the purpose of redefining the modes of usage of mobile phones and the Internet in order to help communities establish a shared communicational praxis and strengthen their reciprocal relations. I will present the outcomes and lessons learned after implementing the ERV Methodology in communities in Bagamoyo, Tanzania and Oaxaca, Mexico, and will suggest a number of recommendations for further research.

#### BIO

**Eugenio Tisselli** is an artist and programmer with a specific interest in developing sociotechnical methodologies for communal practice. He is a PhD candidate at Z-Node, the Zurich Node of the Planetary Collegium. Previously, he worked as an associate researcher at the Sony Computer Science Lab in Paris, and was also a teacher and co-director of the Masters in Digital Arts program at the Pompeu Fabra University in Barcelona. In his role as director of the *ojoVoz* project, he has carried out extended workshops with small-scale farming communities in different parts of the world. The *ojoVoz* project may be accessed at <http://ojovoz.net>

#### ANGELIKA HILBECK

##### ABSTRACT

**Transformation of research and science agendas to include farmer-participation in developing sustainable agri-food systems** As the global agri-food systems are under increasing anthropogenic pressures due to the destructive industrialization and dwindling resources reinforced through divisive economic policies, agroecological production methods are increasingly seen as a key approach for addressing a wide range of daunting challenges simultaneously, including the increase of productivity

while improving resilience and adaptation to environmental challenges and protecting biodiversity. However, agroecological practices are knowledge-intensive, based on techniques that are not delivered top-down but developed bottom-up on the basis of farmers local knowledge. This means other forms of knowledge need to be integrated into formal research projects and scientific knowledge generation. But differences between scientific and farmer's knowledge and the underpinning world views continue to create barriers to meaningful collaboration, and the research community has not yet engaged sufficiently in linking science to other knowledge systems. In a development context, farmers are typically smallholders producing the majority of foods consumed in their regions. These farm systems are based on low-tech practices and self-provisioned inputs catering mostly to informal markets. The diverse production systems practiced by culturally diverse peoples have generated the countries' rich agro biodiversity, which bolsters against the vagaries of the environment. However, the forms of agriculture practiced by smallholder farmers have hardly been examined in formal scientific ways nor has their potential to improve productivity. Therefore, there is an urgent need to develop and test methodologies that are specifically designed to link farmer's informal knowledge to formal sciences and research and we argue that mobile phone-based information and communication technologies offer platforms and solution options that can do much more than the current utilitarian, business-focused models.

#### **BIO**

**Angelika Hilbeck** is a senior scientist at the Institute of Integrative Biology at ETH Zurich. Since 20 years, her research centres on biosafety issues and agroecology. Her research and conceptual work included the development environmental risk assessment, post-release monitoring and fundamental ecological research with genetically modified organisms. Through numerous research and capacity building projects she is engaged in several developing countries. She is engaged in the implementation of the (UNEP CBD) Cartagena Protocol on Biosafety and in various civil society capacity building projects. Through her international work, she became increasingly involved in broader issues of technology development towards a democratically legitimated, sustainable global future and actively contributes to the debate on biosafety, international agriculture, hunger and poverty alleviation. She has written over 80 scholarly publications. She is co-founder and acting chairperson of the European Network of Scientists for Social and Environmental Responsibility (ENSSER) and a member of the board of directors of the Swiss development organisation 'Bread for All'. She is involved in art science research and working with artists since 2002 in various roles. Since 2009, she was a first and second supervisor within Z-Node.

#### **BIO MODERATOR**

**Pat Badani** is a media artist who participates in culture as researcher, educator, editor, and curator. Badani's praxis involves research and creation around such topics as inhabitation, transculturality, human migration, and sustainable living. Her projects have received over 20 grants, awards and fellowships and her works have been shown extensively in international venues in the Americas, Europe and Asia. Essays examining her practice have been published in several languages in solo and group exhibition catalogues, art-magazines, academic journals, and in thematic anthologies. Her scholarly essays have been published in English and Spanish in symposium proceedings, journals, and in book chapters. Badani has held full-time academic positions and acts as reviewer and art juror in several organizations (ISEA, iDMAa, Siggraph, NMC, Balance-Unbalance). Since 2010 she is Executive Board Officer of the New Media Caucus and Editor in Chief of "Media-N, Journal of the New Media Caucus," an international scholarly online and print journal

**Environment 1: Evolution and Cellular Metaphors****3:00 pm, 19<sup>th</sup> of February****MODERATOR:**

Joanna Hoffmann, Media Artist, Professor, University of Art in Poznan, Poland (see biography below)

**SPEAKERS:**

**JILL SCOTT**, Media Artist, Professor for Art and Science Research, Founder of the Artistinlabs Program, Institute for Cultural Studies in the Arts, Zurich University of the Arts ZHdK, Switzerland & **ANDRÉ LEHNHERR**, PhD student at The Institute of Molecular Life Sciences in the Neuhauss group: Vision Systems. University of Zurich, Switzerland

**JILL SCOTT****ABSTRACT**

**Cellular life and mediated metaphors.** One challenge of the media artist in the “third industrial revolution” is to bring communication, science and evolution together. Perhaps some metaphors can be found by scaling up the forms and behaviours found in cellular science to raise peoples’ awareness about the environment we live in. In this presentation I will talk about the values of this communication strategy by using two examples from my own art and science works: AURALROOTS and JELLYEYES. AURALROOTS combines inspiration from tactile and aural sensory perception based on the stereocilia in the inner ear in the cochlea. Here, scale and the impossibility of regeneration of these cells are used as metaphorical learning experiences for the viewers. The poetic content of AURALROOTS is extended by focusing on how we learn through acoustics a) as an embryo in the womb, b) as a daughter listening to her mother about the wild pants for survival in the Australian desert and finally c) as a female artist communicating with scientists. JELLYEYES looks at the evolution of cilia in retinal vision in humans, jellyfish and squid. Warmer temperatures are already affecting the evolution of these three species and their cells. Here my research is about which metaphors can be found in the evolution of cells based on completion, co-evolution or symbiosis?

**BIO**

*Jill Scott is Professor in the Institute of Cultural Studies in the Arts, at the Zurich University of the Arts, Founder of the Artists-in-Labs Program and Vice Director of the Z-Node PHD program on art and science at the University of Plymouth, UK. She focuses on Art and Science Research for many years. Her artwork spans 38 years of media art production about the human body, behaviour and body politics and recently on neuroscience, ecology and sensory perception. Her publications with Springer include Neuromedia: Art and Science Research with Esther Stoeckli (2012), Transdiscourse 1: Mediated Environments (2011) and Artists-in-labs: Networking in the Margins (2011). Her most recent publication is entitled Transdiscourse 2: Turbulence and Reconstruction. (2015) Birkhauser-De Gruyter (Austria –Vienna) <http://www.jillscott.org>, [www.artistsinlabs.ch](http://www.artistsinlabs.ch), [www.z-node.net](http://www.z-node.net)*

**ANDRE LEHNHERR****ABSTRACT**

**Tracing the Evolutionary History of a Gene Family in the Retina** Humans are highly visual animals. Like all other vertebrates, we sense light using the retina, but the evolution of light sensing started even before the first vertebrates appeared on the planet. Even some cnidarians already use a camera style eye to sense light and distinguish colors. Clearly, different species have different demands to their visual system. Distinguishing ripe fruit from unripe ones, recognition of predators or prey or nocturnal versus diurnal animals require highly specialized eyes according to the species’ need. In order to meet those needs, variations on few general eye designs have evolved. During vertebrate evolution, two rounds of whole genome duplications occurred. Each duplication event gives one copy of a gene the chance to evolve new functions while the other copy retains the ancestral state. Our research focuses on the evolution of the Excitatory Amino Acid Transporter (EAAT) gene family in vertebrates. Those genes are essential for the removal of the excitatory neurotransmitter glutamate out of synapses in vertebrate retina. To trace the evolutionary history, we combine different approaches to gain a deeper insight into this truly amazing gene family.

**BIO**

*André Lehnherr is currently a Phd Student in the Stephan Neuhauss Lab at the Institute of Molecular Life Sciences at the University of Zurich researching and tracing the evolution of the SLC1 Gene Family. This lab mostly works with Zebrafish, members of the teleosts (ray-finned fishes) that constitute more than half of all existing vertebrate species. This remarkable development may have been helped by a whole genome duplication event that occurred at the base of the genetic line. The*

redundancy of duplicated genes can pave the way for interesting diversions, leading to experimental conditions where genetic manipulations occur in specific cell types. He is also a member of ZNZ International PhD Program in Neuroscience and has a Bachelor of Science in Biology UZH and a Master of Science in Neuroscience. He has supervised thesis and taught Neuobiology as well as conducted seminars on Comparative RNA Expression Patterns.

#### BIO MODERATOR

**Joanna Hoffmann-Dietrich** is Professor of the University of Arts in Poznan, leader of the Studio for Transdisciplinary Projects & Research AE/UAP. She is also co-founder and Chair of the Art & Science Node in Berlin and Club for Science & Art in Poznan. Her artistic works have been widely presented i.a. at the Center for Contemporary Arts Warsaw; Science Museum/DANA Centre London; MOCA London; Transmediale Festival Berlin; EPO European Patent Office, Berlin; WRO Media Art Biennale Wrocław; MUSE Centre of Photography and Moving Image New York. Her art residences include i.a. Eilslabs/DKFZ /Heidelberg University; Academy of Film and Television Potsdam-Babelsberg; CEMA/Srishti College & NCBS National Centre of Biological Science, Bangalore; KHOJ & ICGEB International Centre for Genetic Engineering and Biotechnology New Delhi. She closely collaborates with KNOW Polish Leading Centre for RNA Research. Reiterated Fellow of the Polish Minister of Culture.

### **Environment 2: Transdisciplinary Frameworks**

4:00 pm, 19<sup>th</sup> of February

#### MODERATOR:

**SUSANNA WITZGALL**, Theorist, Lecturer, Centre of interdisciplinary studies of the Academy of Fine Arts in Munich, Germany (see biography below).

#### SPEAKERS:

**JUANITA SCHLAEPFER-MILLER**, Art and Science Communicator, Zurich-Basel Plant Science Center, ETH Zurich, Switzerland & **CHRISTIAN POHL**, Theorist, Co-director of the Network for Transdisciplinary Research (td-net) and Chair of the Sustainable Development at Universities Programme, Swiss Academies of Arts and Sciences, Switzerland

#### JUANITA SCHLAEPFER-MILLER AND CHRISTIAN POHL COMBINED ABSTRACT

How does the application of Pohl and Hadorn's *Principles for designing transdisciplinary research* enable a discussion of the knowledge produced by art-science? Transdisciplinary research has become a key reference point in funding proposals both in the arts and natural sciences. Despite many references in the literature, and calls for research involving both the natural sciences and humanities to solve complex world problems such as adaptation to climate change, there seems to be little consensus and few definitions, about exactly what kind of knowledge might be produced from such projects, especially those at the interface of art and the natural sciences. The research of Juanita Schläpfer applies the transdisciplinary research framework proposed by Christian Pohl and Gertrude Hirsch Hadorn (2007) to real-world, transdisciplinary art-science projects in order to examine the balance between the collective, locally embodied experience and the nomothetic knowledge that arises from it. Pohl's framework is widely used in the field but has not previously been applied to science-art research. Schläpfer's research found that transdisciplinarity is a different question from that of types of knowledge on the nomothetic-idiographic scale. Transdisciplinarity is a pragmatic question of definitions and inherited boundaries of disciplines. The framework categories do not differentiate between nomothetic and idiographic, just to which part of the problem-solving puzzle they fit. This is perfectly valid for goal oriented, problem solving research and can be applied to art-science research, but there are other ways of describing this work such as using a philosophical description of the knowing process which come closer to encompassing the richness of the knowledge produced. (Pohl, C., & Hadorn, G. H. (2007). *Principles for designing transdisciplinary research*. Munich: oekom)

#### BIO

**Juanita Schlaepfer-Miller** is an artist and science communicator, currently a Program Coordinator for the Zurich-Basel Plant Science Center. She has a Masters in Science Communication and has over fifteen years experience designing inquiry-based learning exhibits in the natural sciences. Recently she has developed transdisciplinary art and science workshops to engage children and teens with plant science. She teaches science communication courses at the ETH Zürich and in 2015 submitted her PhD thesis: "Defining new knowledge produced by collaborative art-science research".

#### BIO

**Christian Pohl** with a PhD in environmental sciences, is co-director of the transdisciplinarity-net ([www.transdisciplinarity.ch](http://www.transdisciplinarity.ch)) of the Swiss Academies of Arts and Sciences and co-director of the Transdisciplinarity Lab of the Department of Environmental Systems Science at ETH Zurich ([www.tdlab.usys.ethz.ch](http://www.tdlab.usys.ethz.ch)). He studied environmental sciences, followed by a doctoral thesis on uncertainty in environmental assessments. As a post-doc he moved to the field of science studies and analysed inter- and transdisciplinary research. Over the last decade Christian Pohl has substantially contributed to the advancement of theory and practice of transdisciplinary research, specifically in the field of sustainable development (cf. *Principles for Designing Transdisciplinary Research*, *Handbook of Transdisciplinary Research*, *Methods for Transdisciplinary Research*). Currently he is engaged in developing a compilation of methods for coproducing knowledge and in chairing the Sustainable Development at Universities Programme (2013-2016).

#### **BIO MODERATOR**

**Susanne Witzgall** holds a PhD in art history and since 2011 is head of the cx centre of interdisciplinary studies at the Academy of Fine Arts Munich funded by the BMBF. From 2003 to 2011 she was an assistant professor at the Department for Art History at the same institution and in summer term 2013 a guest lecturer at Newcastle University. From 1995 to 2002 Witzgall worked as a curator for the Deutsches Museum Bonn and the Deutsches Museum, Munich. She has curated and co-curated several exhibitions among them *Art & Brain II* (1997/98), *The Other Face* (2002), *Say It Isn't So* (2007) and *(Re)Designing Nature* (2010/1) and is the editor and author of numerous books and articles on contemporary art and art and science, including *Kunst nach der Wissenschaft* (2003), *New Mobility Regimes in Art and Social Sciences* (with Gerlinde Vogl and Sven Kesselring, 2013), *Power of Materials/Politics of Materiality and Fragile Identities* (both with Kerstin Stakemeier, 2014 and 2015).

**DAY TWO 20<sup>th</sup> of February 2016**  
**ART/ SOCIOLOGY, ARTIFICIAL INTELLIGENCE, PHYSICS AND**  
**COGNITION RESEARCH**

**INFORMATION and MODERATION**

*8:30 am, 20<sup>th</sup> of February*

**JILL SCOTT**- Professor in the Institute of Cultural Studies in the Arts, at the Zurich University of the Arts, Founder of the Artists-in-Labs Program and Vice Director of the Z-Node PHD program on art and science at the University of Plymouth, UK.

**WELCOME ADDRESS**

*8:40 am, 20<sup>th</sup> of February*

**SIGRID SCHADE Schade, Sigrid**, is since 2002 a Professor and Head of the Institute for Cultural Studies in the Arts ICS, Zurich University of the Arts. She was professor for Art Science and Aesthetical Theory at the University of Bremen from 1994-2004. The topic of her dissertation was "Representations of Witches in the 16th Century", that of her habilitation "Body Languages in the Arts and Photography". She also has worked as guest professor at several institutions. Her research includes studies in visual culture, hierarchies in the arts, gender studies, interrelations between the arts and new media. Selected publications: ed. Vera Frenkel, Ostfildern: Hatje Cantz 2013 (German and English); Studien zur visuellen Kultur, together with Silke Wenk, Bielefeld: transcript 2011; (German and English); SchnittStellen, ed. w. T. Sieber u. G.C. Tholen, Basel 2005; Co-editor of the series Studies in Visual Culture, transcript Verlag. <http://sigrid.schade.zhdk.ch>.

**KEYNOTE**

*9:00 am, 20<sup>th</sup> of February*

**ROY ASCOTT**

**ABSTRACT:**

**"Laying the planetary table"**: Central to my work, whether analogue, digital, or hybrid, is "the tabletop": the place of exchange and interaction, where ideas and experiences are laid out, addressed, reordered, contested, or consumed. Those coming to the table may appear in real time, in virtual presence, or as part of a non-linear, distributed authorship. I lay out organisms of learning and research, in which process and system are prioritized, where cybernetics is central, addressing issues of behaviour, identity, environment and connectivity. Just as I see technology as the product of desire, rather than the opportunistic offspring of scientific research, so I see art as an instrument for change, both psychic and material, rather than a passive window on a world circumscribed by habitual assumptions about consciousness and reality. *Cybernetics, telematics, moistmedia, cyberception, and technoetics* are syncretic neologisms that describe the pathways of thought artists navigate to realise social, cultural, and spiritual aspirations. The moral integrity of art lies in its ability to pursue futures of unexpected value and beauty, in which we constantly re-invent the world, and shift and shape our evolving identity. New technologically assisted forms of perception and of cognition (cyberception) permit us to think new worlds into being., and to propose new perspectives on what it is to be human. Thus, our engagement with the Tao can be actively constructive rather passively receptive. Similarly, at the nano level, new potentialities as well as new ethical responsibilities, arise. We build our selves and our reality, with art playing a special role in that process. The consequences of applied technologies (both ancient and modern) properly understood, are that we inhabit many selves, and traverse many realities, constructing many worlds. We are, in short, at a critical turning point in our cultural and spiritual destiny. Art can serve at the table of desire.

**BIO**

**Roy Ascott**, visionary pioneer of Media Art (*Ars Electronica Golden Nica 2014*), currently in *Electronic Superhighways at Whitechapel, London*, has featured in the *Biennales of Venice and Shanghai*, and major exhibitions in Asia, Europe and South America. His work is in the permanent collection of the Tate Gallery, London. In 1994, he founded the first PhD programme in art and technology internationally (CAiA), which has nodes in Switzerland, Italy, and China, and the hub in Plymouth University, with over 80 doctoral graduates. He is the *De Tao Master of Technoetic Arts at DTMA, Shanghai*, where his studio offers advanced degree programmes and projects. He is an honorary

editor of *Leonardo* (MIT), and founding editor of the *Technoetic Arts Research Journal* (Intellect). He has held senior academic appointments in Toronto, San Francisco, London, and Vienna, and advised universities and media centres internationally, including UNESCO and the EU.

### **Materiality and Behaviour**

9:45 am, 20<sup>th</sup> of February

#### **MODERATOR:**

**DARCY ALEXANDRA**, Visual Anthropologist, writer, ethnographer, Centre for Transcultural Research and Media Practice, Dublin Institute of Technology, Dublin, Ireland (see biography below).

#### **SPEAKERS:**

**KARMEN FRANINOVIĆ**, Designer and Architect, Head of Interaction Design, Zurich University of the Arts ZHdK, Switzerland & **DANIEL BISIG**, Media Artist and Biochemist, Senior Researcher, Department of Computer Music, Zurich University of the Arts ZHdK, Switzerland

#### **KARMEN FRANINOVIC**

##### **ABSTRACT**

**The misbehaviour of Active Materials.** How can we enable flows of matter and thought that escape the solidification into stable concepts and objects? How can we think materials actively and how can we engage with them in an active and open manner? In this lecture, I re-reconsider the idea of agency and affordance by engaging with current discourses on materiality and my practice-based research on active materials. These materials, often labelled as “smart”, have been developed with the purpose of efficiency and functionality. In Enactive Environments group, we have been developing new processes of working with such materials, in order to take them outside of scientific laboratories and into the hands of artists and designers. We embrace the disobedience and misbehaviour of active matter, and work with “errors” and qualities, which are undesired in engineering contexts. Through hands-on experiments, we follow what materials afford instead of trying to impose our ideas on matter by controlling its physical properties. By opening up alternative paths for those materials, we aim to let them flow and leak into the world, and let them affect our imagination and thought, not knowing what they, and us, will become.

##### **BIO**

*Karmen Franinovic is an architect, artist, and interaction designer focused on the creative and active use of technology in architecture, urban space and everyday life. In her projects, she seeks to stimulate social and bodily movements, and to raise awareness of interaction with/in the urban surroundings and its diverse ecologies. Her theoretical research on action, play, hospitality, participation and “enaction” manifests in responsive sculptures, digital architecture and interactive installations. Karmen is Professor for Interaction Design at Zurich University of the Arts, where she leads research projects on sonic interaction, movement rehabilitation, active materials and responsive urban environments.*

#### **DANIEL BISIG**

##### **ABSTRACT**

**Hybrid performance - behavioural correlation between human performers and simulated-based complex systems:** The following presentation discusses the author’s currently ongoing research on and development of interactive generative systems for dance performance. The work explores the establishment of hybrid environments within which the behaviours of simulated and natural entities interrelate and mutually influence each other. The chosen approach is heavily inspired by concepts from embodied artificial intelligence and behavioural robotics. Accordingly, it places a strong focus on the interplay of environmental, morphological and cognitive properties and processes in the generation of behaviour. The talk presents as case studies two dance performances entitled *Stocos* and *Phantom Limb*. *Stocos* employs interactive swarm simulations whose behaviours are linked to the dancers’ activities via their collective influence on and sensitivity to the dynamics of a shared physical space. *Phantom Limb* experiments with the abstraction and simulation of neural and morphological structures and processes that are tightly integrated with and extend the dancers’ physical bodies and behaviours.

##### **BIO**

*Daniel Bisig, Media Artist and Biochemist, Senior Researcher, Department of Computer Music, Zurich University of the Arts ZHdK, Switzerland Zurich University of the Arts. Institute for Computer Music and Sound Technology.*

**BIO Moderator**

**Darcy Alexander** specializes in visual anthropology, digital storytelling, and international migration. Since 2007, Dr. Alexandra has designed and directed participatory research projects that center audiovisual production as a means of inquiry and public engagement. She names this approach to engaged ethnography, 'co-creative documentary.' Her commissions include the Dublin City Council, the Forum on Migration and Communications, and the Swiss Agency for Development and Cooperation. She has taught digital storytelling in Europe and the United States and conducted research in the US-Mexico borderlands, El Salvador, Uruguay, Cuba, and Ireland. This spring, she introduces a new course on digital storytelling to the Department of Social Anthropology, University of Bern.

**Behaviour and Space****10:45 am, 20<sup>th</sup> of February****MODERATOR:**

**IRÈNE HEDIGER**, Curator and Head of Projects Artistsinlabs, Institute for Cultural Studies, Zurich University of the Arts ZHdK, Switzerland (see biography below).

**SPEAKERS:**

**MONIKA CODOUREY**, Architect, Head of Research Office LAB /Senior Project Leader, ZING, Zurich, Switzerland & **MIKE PHILLIPS**, Artist, Professor of Interdisciplinary Arts, School of Art and Media, University of Plymouth, UK

**MONIKA CODOUREY****ABSTRACT**

**What do airports and hospitals have in common? Users` Participation in the Design of the Hybrid Workplace:** Global mobility, wireless technology and knowledge society are transforming our build environment. We live more mobile lifestyles, we work in hybrid spaces (Suoza 2006; Duffy 2010 et al), and we consequently need to share information and collaborate differently. But design strategies focusing on the user experience (soft factors) have not yet been thoroughly assimilated by architecture and design. Airport, as well as hospital design is a complex issue that has to function within a broad set of independent domains: the logistics of flow, services, architectural structure and aesthetics. Both are also strongly influenced by socio-economic and political considerations. The research about airports and hospital case studies show that the design of the hybrid workplace requires a holistic approach that focuses on understanding users' needs, and involving them in design. Doctors are mobile/knowledge workers that use advanced ICT technology (for e.g. sensors, large display monitors, expert systems) in their highly diversified work activities. In effect, hospitals are transforming into highly technological work environments. Doctors' everyday activities include close contact with patients, administration of patient data, reporting, meetings and collaboration with colleagues, as well as knowledge transfer between partner hospitals and academics over distance. These developments indicate the need to re-think strategies for hospital workplace planning and to create hybrid work environments that support team collaboration and work flexibility. Therefore, doctors' involvement from the early design stage is necessary to better understand their needs and work processes and to inform design. In this case study, I investigate ways to generate empirical data about users and to explore the potential of the activity-based workplace in the hospital context. Case Study: Winterthur Cantonal Hospital (KSW)

**BIO**

**Monika Codourey** is registered Architect & Workplace Consultant teaching and research experience in Field of Architecture, Media and Design. She takes holistic approach to design focusing on solutions that support users needs and behavioural change. Currently she works at Workplace Design and Consultancy firm in Zurich and helps organizations from healthcare, education and financial industry to innovate their work environments and successfully manage change process during all project phases. Recently, she has completed PhD dissertation titled "Airport Territory as Interface: Mobile Work and Travel in Hybrid Space". She worked as architect in the USA, Canada and Germany before settling down in Switzerland in 1998. Monika has a degree in Architecture (University of British Columbia (CAN), a post graduate degree in Information Architecture at Department of Architecture (ETH Zurich (CH) and participated in Bauhaus Kolleg „Transnational Spaces“ in Dessau (D). Monika has lectured in field of Urban Media and Information Spaces at the New Media Faculty of Zurich University of Arts (CH) and at University of Applied Sciences Northwestern Switzerland, School of Arts and Design in Basel (CH).

**MIKE PHILLIPS****ABSTRACT**

**Model Instruments and Instrumental Models** "Science and technology multiply around us. To an increasing extent they dictate the languages in which we speak and think. Either we use those languages, or we remain mute." (Ballard, 1993) When speaking in tongues is important to have a focus for discussions. Across the arts and sciences the 'model' plays a negotiable role, the model animal, the model building, the *maquette*, all virtual/negotiable/conceptual/perfect things around which conversations can take place. These models are more often than not generated by instruments that are used to manifest the things that lie outside of the normal frames of reference - the invisible and the obscured, the infinitely big or nanoscopically small, things so small or so big that they require a leap of faith to believe that they are actually there. In this post-ocular transdisciplinary culture we need to constantly (re)-negotiate the fragility of meaning and notions of reality disciplines. The model and the instrument become the recursive *lingua franca* for the generation of new knowledge. The recursive relationship between the instrument that generates the model and the model that generates the knowledge to build the next instrument generates the evidence upon which falsifiability rests. And evidence is... "a very tricky thing," answered Holmes thoughtfully. "It may seem to point very straight to one thing, but if you shift your own point of view a little, you may find it pointing in an equally uncompromising manner to something entirely different." (Doyle, 1892)

**BIO**

**Mike Phillips**, is Professor of Interdisciplinary Arts at Plymouth University, the Director of Research at *i-DAT.org* and a Principal Supervisor for the Planetary Collegium. My R&D orbits a portfolio of projects that explore the ubiquity of data 'harvested' from an instrumentalised world and its potential as a material for revealing things that lie outside our normal frames of reference - things so far away, so close, so massive, so small and so ad infinitum ([www.op-sy.com](http://www.op-sy.com)). He manages the FullDome Immersive Vision Theatre ([www.i-dat.org/ivt/](http://www.i-dat.org/ivt/)), a transdisciplinary instrument for manifesting (im)material and imaginary worlds and is co-editor of *Ubiquity, The Journal of Pervasive Media* <http://www.ubiquityjournal.net/> Phillips is an active member of an international transdisciplinary community that engages with immersive, interactive and performative technologies. He sits on the ISEA International Advisory Committee, the AHRC Internet of Things Advisory Board, Arts Council England SW Digital Reference Group, the TSB IoT SIG and is a founding partner of FullDome UK ([www.fulldome.org.uk/](http://www.fulldome.org.uk/)). <http://i-dat.org/> <http://i-dat.org/mike-phillips/>

**BIO****Irène Hediger**

is the head of projects at the artists-in-labs program at the Institute for Cultural Studies in the Arts (ICS), Zurich University of the Arts (ZHdK). She studied Business Administration specializing in group dynamics and organizational development (DAGG) and a MAS in Cultural Management from the University of Basel. She has curated numerous exhibitions, performances and accompanying programmes about issues related to contemporary art, science and technology, such as „Think Art – Act Science“ Barcelona, San Francisco and other destinations (2010-2011), “experimenta13 – Natur Stadt Kunst”, Basel (2013), “Quantum of Disorder” (2015) and “(in)visible transitions” (2015). She specializes on long-term inter- and transdisciplinary creative practices and takes artistic and scientific processes out of the lab or studio into the public realm. Other activities include her role as Deputy Equal Opportunities Officer at the ZHdK.

**Materiality and Physics**12:00 am, 20<sup>th</sup> of February**MODERATOR**

**MARILLE HAHNE**, Filmmaker and Precision Tool Engineer, Professor for Filmmaking, Department Performing Arts and Film, Zurich University of the Arts ZHdK, Switzerland (see biography below).

**SPEAKERS:**

**ANDREAS SCHIFFLER**, Media Artist and Physicist, Senior Software Engineer, Microsoft, Seattle, USA & **ALEXANDER PENN**, Physicist and Researcher, Lab for Energy Science and Engineering, D-ITET, ETH Zurich, Switzerland

**ANDREAS SCHIFFLER****ABSTRACT**

**Electron Defence – a game development project to expand a popular casual game genre through the use of non-standard game physics** My research found that scientific and artistic perspectives should be considered when designing game physics, because the primarily entertainment driven design goals of game developers interfere with the needs of educators or scientists, as they create undesired effects on game players by projecting a form of “pseudo physics” that is common in mass media. Electron Defence is a computer game implementation project that aims to overcome observed limitation in the traditional definition, use and reach of physics in interactive mass media by applying the authors’ principles for the design of effective game physics elements. The subgenre of real-time strategy video games called tower defence is combined with an uncommon type of game physics, electrostatics simulations, to create a novel game experience. My game design principles will be used throughout the game, in order to enhance the game mechanics, game story, game aesthetics and game technology. A game prototype will be presented publically, so a wide variety of audiences, including scientists and artists, can play that game and provide feedback on a trans-disciplinary level.

#### BIO

**Andreas Schiffler** is a German native and has a technical diploma as Chem-Tech at Odenwaldschule, Heppenheim in 1987. He then moved to Canada in 1989 to study Space Physics at the Institute for Space and Atmospheric Sciences, where he received his B.Sc. in 1994, followed by a M.Sc. in 1996 from the University of Saskatchewan, Saskatoon. In a career shift, he supported technical projects of media artists Prof. Jill Scott and Dr. Jeffrey Shaw for 4 years at the ZKM, Karlsruhe. Following his deep interest in software, he returned to Canada and worked in key roles at various IT startups including Tek21, Appwares, and IC-Agency until 2007. He then moved to the USA where to work in a senior software development position at Microsoft Corp, Redmond while completing a transdisciplinary dissertation at Z-Node, Zurich with a PhD awarded in 2013 by the University of Plymouth.

#### ALEXANDER PENN

##### ABSTRACT

**Looking Behind the curtains: The Magnetic resonance imaging of Granular Material** While migrating birds have magnetic sensors in their brains that act as a compass on their flights across thousands of kilometers, humans cannot sense magnetic fields even if they are a hundred thousand times stronger than the earth’s magnetic field. Such enormous magnetic field strengths are used in magnetic resonance imaging (MRI), however besides being a very helpful instrument for tissue analysis in medical diagnostics, MRI is able to measure spatially resolved brain activity, offering a unique tool for neuroscientists to study the complex functionality of the human brain. In our project at ETH Zurich we use the powerful concept of MRI to study the behaviour of granular materials. Granular materials can be sand on the beach, the soil on which we build our houses or our daily breakfast cereals, but the results from our imaging could also be applied as new research materials in other disciplines. While still only poorly understood, these materials exhibit thrilling phenomena. For example, sand could be a living sculpture and flow like a liquid in an hourglass or it can behave like a gas in a storm, or it can form a solid platform on which we can interact. This talk features unique methods and measuring devices, developed in our labs, to understanding this fascinating “granular state of matter”, including tailored multichannel receiver hardware for high speed, parallel MR data acquisition, advanced image reconstruction algorithms and magnetically optimized, artificial granular materials with high MR signal densities.

#### BIO

**Alexander Penn** is physicist and researcher at the Lab for Energy Science and Engineering and at the Institute for Biomedical Engineering at ETH Zurich. He received his master’s degree in physics from Vienna University of Technology in 2013, focusing on novel concepts for renewable energy technologies (fuel cells and solar cells). In his current research at ETH Zurich he applies magnetic resonance imaging to study granular materials, which exhibit fascinating physical properties.

#### BIO MODARATOR

**Marille Hahne** is a filmmaker and professor of film at the Zurich University of the Arts, where she started the first Swiss Master of Arts in Film Degree program. She has a degree in precision tool engineering from the Munich University and a Master of Fine Art in Filmmaking from the Chicago Art Institute. She teaches and conducts research on the theory and practice of filmmaking and digital cinema. In the last 15 years she specializes in documentary film about art and science. She is also engaged in international exchange initiatives for the Department of Performing Arts and Film and she is a jury member of the Alexis Thalberg documentary award and editorial board member of Z-DOK. Her edited publications include: *Coded Characters* (2002) Springer Verlag, *Digital Cinema*

(2006) Schürenverlag and a featured chapter in *Dokumentarfilm* (2013) ed. Edmund Ballhaus.

**Representation and "The Self"**

2:00 pm, 20<sup>th</sup> of February

**MODERATOR:**

**JILL SCOTT** Professor in the Institute of Cultural Studies in the Arts, ZHdK Vice Director of the Z-Node PHD program on art and science at the University of Plymouth, UK.

**SPEAKERS:**

**NICOLE OTTIGER**, Artist, Art Therapist at Cantonal Psychiatric Clinic Wil, Switzerland & **DIETER MERSCH**, Philosopher, Director Institute for Theory, itH, Zurich University of the Arts ZHdK, Switzerland

**NICOLE OTTIGER.**

**ABSTRACT**

**Eyes at the Back of the Head: An Artist's Research of Immersion into the Body of the Avatar.**

We can't see ourselves from behind. But what if we could? This paper addresses and analyses the artist's exploration of 'seeing' her bodily self whilst immersed into the body of her avatar. In a self-portrait the artist normally renders the intimate representation of the own personal self. Self-portraiture is a method of investigation on oneself, both physically and emotionally. While making a self-perception the artist 'expands' the represented self beyond the perceived self. In some painted and photographic self-portraits the painter is represented twice – a reduplicative phenomenon, as the painting painter, by choice of technique and mode of expression, and, as the depicted subject the painted painter. So, a virtual self exists. In virtual surroundings of today's digital world we are generating a lot of virtual selves. In art representation a virtual self was always observed and recently it seems to have re-gained a figurative (bodily) element. By example of an artwork series (Video Ergo Sum - Third Person Series) made during the 2010 artist-in-lab residency within the Laboratory of Cognitive Neuroscience at EPFL, it will be discussed that self-depiction is possibly based on the constant re-attempt to localize the self. The focus here is to reflect on artistic practice and the nature of contemporary art representation of bodily reality and self.

**BIO**

*Nicole Ottiger is an artist and a researcher, practicing art psychotherapist and since 2014 deputy head of art therapy (Ateliers-Living Museum) at the Cantonal Psychiatric Clinic Wil/SG. Her main interests are: visual art practice and art theory, self-representation, illusory and disturbed own body recognition. She is currently a PhD candidate in Visual Arts at Zurich University of the Arts and Plymouth University. She studied Geography & Geology (BSc 1991) Fine Arts (BA 1998) and Art Psychotherapy (MA 2004). Art Grants include: 2012 Agora SNF Grant for Art and Science in Practice, 2010 Artists-in-Labs Residency at the Laboratory of Cognitive Neuroscience, 2009 Studio Art Grant Cité des Arts Paris, 2008 Studio Art Grant Fundaziun Nairs. In 2002, her first artist book *Squint/Silberblick* was published with ars pro toto Verlag, Luzern.*

**DIETER MERSCH**

**ABSTRACT**

**Aesthetic Criticism. On the Wisdom of Art.** The concept of "art as research" has risen over the last two decades as an important critical view on the relationship between art and science. Of particular interest is how the methodologies of art and science might be merged to create a proper understanding of art-based research. On the other hand the notion of artistic research seem to undermine the leading role of science today. Instead, the presentation deconstructs and displaces the terminology that typically accompanies the question of the relationship between artistic and scientific truth. It shifts the question from comparison to the uniqueness of artistic thought that differs from any propositional or discursive way of thinking. Identifying artistic practices as a specific mode of thought that do not make use of language in a way that can easily be translated into a scientific argumentation or philosophical concepts, the presentation advocates for an aesthetic mode of thinking beyond the so called 'linguistic turn'. Art, hence, becomes thought that cannot be substituted by any other system or discourse.

**BIO**

*Dieter Mersch, Professor for Aesthetics and since 2013 director of the Institute for Critical Theory at the Zurich University of the Arts. He studied mathematics and philosophy. His experience includes, Chair for Media-theory and Media Studies at the University of Potsdam, and Director of the DFG Research Training Centre Visibility and Visualisation. Hybrid Forms of Pictorial Knowledge. His main*

interests are Aesthetics and Art Theory, Picture-theory, Media-Philosophy, Semiotics, and Language-Theory and Communication. His books include *Introduction to Umberto Eco* (Hamburg 1993); *What shows itself. On Materiality, Presence, and Event* (Munich 2002) *Event and Aura. Investigations on Aesthetics of Performativity* (Frankfurt/M 2002, *Introduction to Media-Theory* (Hamburg 2006) , *Post-Hermeneutics* (Berlin 2010,), *Ordo ab chao / Order from Noise* (Berlin/Zurich 2013), and *Epistemologies of Aesthetics* (Berlin/Zurich 2015).

### **Representation "Other" Subjects**

**3:00 pm, 20<sup>th</sup> of February**

#### **MODERATOR:**

**SIGRID SCHADE**, Theorist, Director of the Institute of Cultural Studies in the Arts, Zurich University of the Arts ZHdK, Switzerland (see biography below).

#### **SPEAKERS:**

**TERESA CHEN**, Artists and photographer, represented by Bob Gysin Gallery, Zurich & **THERESE STEFFEN**, Theorist, Professor in Cultural Analysis, University of Basel, Switzerland

#### **TERESA CHEN**

##### **ABSTRACT**

**Between Selves and Others:** How do visual artists express ideas or meanings about Otherness and issues of belonging in their art? In this lecture, I outline some of the main arguments and themes from my research about how contemporary visual artists – especially women with (East) Asian diasporic backgrounds – interrogate beliefs about difference or Otherness and emphasize the complex dynamic processes involved in questions concerning identities and identifications. In order to examine various themes of Otherness, selected pairs of artists – where at least one was a woman artist of (East) Asian diasporic background – were compared and analysed. The four categories proposed as a comparative framework were: literary devices (such as irony, parody, connotation or juxtaposition), reappropriation (cultural references which are reclaimed and transformed), anamorphic situations (distortion of conventional ways of viewing in order to become aware of other bodily senses and experiences), and theoretical correlations (connections between artistic practice and relevant theoretical concepts). The specific artists and artworks compared were: Yoko Ono's *Cut Piece* (1965) with Patty Chang's *Melons (at a Loss)* (1998), Lorna Simpson's work in the 1980s and 1990s with Nikki S. Lee's *Projects* (1997-2001), Guillermo Gómez-Peña with Fiona Tan, and Yong Soon Min with Mona Hatoum. The results of my research confirmed the significance of cultural, historical, and geographic experiences on both the conception and reception of visual art and indicated that various artistic strategies have the potential to expose and undermine culturally constructed meanings of difference.

##### **BIO**

**Teresa Chen** ([www.teresachen.ch](http://www.teresachen.ch)) is a Zurich-based independent visual artist. Her artistic practice uses photography in order to see differently and to present the familiar as foreign or alien. She has been a recipient of several awards and public commissions including City of Zurich, the Canton of Zurich, Landis & Gyr Foundation, the University of Zurich Hospital and Credit Suisse. In addition to her individual art practice, she has been actively involved in various independent as well as large scale curatorial activities. Chen has degrees in Computer Science (Brown University) and Photography (Zurich University of Arts) and completed her PhD in 2014 with a dissertation entitled "*Between Selves and Others: Exploring Strategic Approaches within Visual Art*".

#### **THERESE STEFFEN**

##### **ABSTRACT**

**Beyond "Other" Subjects: Forms and Functions of "Passing" in Southasian/Indian, US (African)-American, and South African Texts and Contexts:** "Passing" is a deliberate act to move beyond the status of an "Other" Subject. In line with my research interests in Southasian/Indian, African American, and South African literature and culture I will examine forms and functions of "passing" at the intersection of gender, race, and class: 1: Forms and Functions of "Passing" in Southasian/Indian Texts and Contexts Mulk Raj Anand, *Untouchable* (1935); Bharati Mukherjee, *Jasmine* (1989) 2:Forms and Functions of "Passing" in African American Texts and Contexts Henry Louis Gates, Jr. "The Passing of Anatole Broyard" (1997); Philip Roth, *The Human Stain* (2000),3: Forms and Functions of "Passing" in Southafrican Texts and Contexts: Zoë Wicomb, *Playing in the*

*Light* (2006) According to Edward Said "Passing is a form of exile, an unhealable rift forced between a human being and a native place, between the self and its true home: its essential sadness can never be surmounted. And while it is true that literature and history contain heroic, romantic, glorious, even triumphant episodes in an exile's life, these are no more than efforts meant to overcome the crippling sorrow of estrangement. The achievements of exile are permanently undermined by the loss of something left behind forever." (Said 2002; first edition) "Passing" indeed mirrors a case of "exile" as the passer leaves behind a family he/she will never see or associate with and a hidden subjectivity he/she has to repress at all costs.

#### BIO

**Therese Frey Steffen** is Professor em. of English and American Literature and Culture, and Gender Studies, at the University of Basel, Switzerland. As the recipient of a Schlettwein Foundation Lectureship she also teaches literature in English from South(ern) Africa and has established in 2009 the Swiss South African Joint Research Programme "City in Flux: Urbanization and Societal Change in South African Literary and Cultural Text" together with Professor Lindy Stiebel of UKZN, Durban. Steffen was a Fellow (1995-96) of the W.E.B. Du Bois Institute for African and African American Research at Harvard University, and is now a Permanent Associate of the W.E.B. Du Bois Institute at the Hutchins Center, Harvard. Among her publications are *Crossing Color. Transcultural Space and Place in Rita Dove's Poetry, Drama, and Fiction* (OUP, 2001), and *Gender* (Reclam 2006, 2014). She is the editor of *Crossover, Cultural Hybridity in Gender, Ethnicity, Ethics* (Stauffenburg 2001), and the co-editor, with Lindy Stiebel, of *Letters to my Native Soil. Lewis Nkosi writes home* (2001-2009) (LIT, 2014).

### Sociology and Sociable Technologies

4:15 pm, 20<sup>th</sup> of February

#### MODERATOR:

**MIKE PHILLIPS**, Professor University of Plymouth. UK

#### SPEAKERS:

**JUERGEN MORITZ**, Media Artist, Lecturer, Assumption University of Thailand, Bangkok, Thailand & **MATTHIAS VOGEL**, Theorist and Researcher, Institute for Theory ith, Zurich University of the Arts ZHdK, Switzerland

#### JUERGEN MORITZ

##### ABSTRACT

**Empathetic Things.** In recent years we are facing a new model of computation: smart technologies that help people to take care of themselves through the collection and quantification of data. These new social and attentive machines, whether 'wearables' such as Google's AR Device Glass, Vitality's GlowCaps, or other forms of 'enchanted things,' are the logical next steps in an evolutionary development towards computers that are better able to show empathy in relation to people: even more human-oriented, anticipative and ubiquitous. These devices and systems are capable of understanding a wider range of human needs and behaviors to provide relevant assistance and support at key moments, and play an important role in a broader trend towards self-improvement and self-cultivation - often framed as 'quantified self', 'the good life', and 'work productivity'. At its root, empathetic computing is the desire to have technology that responds to the user with a minimum of direct input. Google CEO, Eric Schmidt, has called this 'augmented humanity' where networked devices "just work and understand autonomously". Anders Albrechtslund (2008) named such practices 'participatory surveillance'. Building on the deep human desire for self-mastering and self-optimization, these new upgrades of the human practical space urge individuals to engage willingly in self-tracking as new ways to reflect upon themselves - thereby translating their bodies, moods and behavior into traceable data, ready to be mastered and reshaped. As such, these tools and techniques function as prototypical technologies of the self (Foucault), and participate in the creation of novel forms and formats of subjectivity.

#### BIO

**Juergen Moritz** is a designer, researcher and lecturer, investigating the social, ethical and design implications of pervasive computing. In recent years, Moritz has developed a particular interest in the ubiquity of 'play' and its formative role in today's society. His current work explores new narrative models (Narrative Transportation Theory, Flow) emerging from the intersections of games, social data and augmented reality. Moritz obtained his Masters in Fine Arts & Visual Communication from the University of Applied Arts Vienna. He completed his Postgraduate Studies of Audiovisual Media and

*Media Science at the Academy of Media Arts Cologne, and received his PhD in Media Studies from the University of Plymouth. Currently, Juergen Moritz is teaching in the Department of Computer Generated Imagery, at the Albert Laurence School of Communication Arts, Assumption University Bangkok, where he also serves as a member of the Academic Research Committee. Weblog: <http://www.playstudies.me>*

#### **MATTHIAS VOGEL**

***Self-Image as Self-Caretaking-Image: Identity in the Daily Flood of Pictures.*** This paper explores the relation between images of the individual and the collective, between self-image and the way we perceive others, by means of pictures compiled in Swiss photo archives. Images are – similarly to technology – mediating factors between people and the world. In this interaction the self-image is a key element, which integrates or disintegrates the subject in society. The paper describes the complex relationship between people and images in the contemporary world of new medias and technologies. It will show the blurring boundaries between the subject and the collective, the subject and its images. In the second half of my presentation I intend to outline some ways out of the flurry of images, which undermines the self-determination of the subject. Michel Foucault's concept of „the care of the self“ in relation to dietics, economics, and erotics as found in his lectures „The Hermeneutics of the Subject“ can serve as a good starting point. Foucault suggested ascetic rules of apprehension, which sharpen the awareness of visual silence, precise non-verbal communication and general demeanor of a good observer. These aesthetic practices of selfhood intend to support and ensure the constitution of oneself as a moral and social subject. In this context self-caretaking can be understood as the longing for and the perception of beauty. The search for an aesthetic existence is driven by the need for a specific relation between the care of selfhood and the knowledge of selfhood, by a modifiable connection between the subject and truth. My paper intends to elucidate Foucault's philosophical concepts with the help of works by Gerhard Richter.

#### **BIO**

***Matthias Vogel Hillman, Prof. Dr., born 1955 in Zurich, lives and works as art historian and art theoretician in Zurich and Berlin. He studied art history, anthropology, philosophy and literary criticism in Zurich, Munich and Berlin, and graduated in Zurich in 1986. From 1990 to 1995 he resided as fellow and researcher in Paris (Ecole des hautes études), London (Warburg Institute), New Haven (British Art Center, Yale University) and New York; in 1997 he got his post doctoral degree (Habilitation) at the University of Basle. Since then he is active as an art critic, curator, and lecturer -mostly at the University of Basle and at the University of the Arts Zurich (ZHdK). At the ZHdK he is responsible for research projects on the subject of image theory and practice. Main fields of interest and work: Art from the 18th to 20th century (Henry Fuseli), contemporary art, art theory and aesthetics, reception theory (with a focus on photography), visual literacy, visual identity, and visual memory. Latest Publications: Hermann Obrist im Netzwerk der Künste und Medien um 1900, Berlin 2013; Bilder Verstehen: Studie zur Visual Literacy in der Schweiz, Zurich 2015***

<b>Artificial Theatre</b>
---------------------------

5:00 pm, 20<sup>th</sup> of February

#### **MODERATOR:**

**BORIS MAGRINI**, Art Historian and Curator, Italian Editor of Kunstbulletin, Switzerland (see biography below).

#### **SPEAKERS:**

**LOUIS-PHILIPPE DEMERS**, Robotic Artist, Associate Professor at Nanyang Technological University, Singapore & **STEFFEN SCHMIDT**, Musicologist, Lecturer, Institute for Cultural Studies in the Arts, Zurich University of the Arts ZHdK, Switzerland

#### **LOUIS-PHILIPPE DEMERS**

##### **ABSTRACT**

**Artificial Theatre** We share and identify to biological, social and cultural experiences with performers on the stage. Phenomenologists and theatre theorists claim that these experiences are vastly grounded in the experiential body. What happens when we inject artificial construction on the stage? Artificial constructions such as machine performers or hybrids made of man and machine? By exploring alternate body morphologies and behaviours in the machine performers, I seek to

understand the mechanism of perception and reception of robotics in a staged context. In turn, this gives me insights on the artistic and entertaining potential of robotics in cultural productions. In the course of these investigations, I started developing artworks entailing singular bodily experiences such as being touched by a robot (*The Blind Robot*), being controlled by an exoskeleton (*Inferno*) and merging proprioception between machine and human (*We were never different*). Theatre has always been the test bed of illusions. The illusion of the actor replaced by a machine signifies the fantasies found in the scientific and the science-fiction communities. However, what I am targeting here is not the artifice but the uncomfortable communalities between the flesh and the mechanical bodies. Having these radical encounters at the liminal space bordering man and machine, it forces audiences to (re)consider their human bodies and the latest transforms in the history of their own embodied experiences.

#### **BIO**

**Louis-Philippe Demers** makes large-scale installations and performances. His projects can be found in theatre, opera, subway stations, art museums, science museums, music events and trade shows. Over the past two decades, he participated in more than seventy artistic and stage productions and has built more than 350 machines. Demers' works have been featured at major venues such as Theatre de la Ville, Lille 2004, Expo 1992 and 2000, Sonambiente, ISEA, Siggraph and Sonar. He received five mentions and one distinction at Ars Electronica, the first prize of Vida 2.0, mentions at Vida 12.0 and 15.0, two jury recommendations at the Japan Media Arts Festival, the Interactive prize for Lightforms 98 and six prizes for Devolution including two Helpmann Awards. Demers was Professor of Digital Media and Exhibit Design/Scenography at the Hochschule fuer Gestaltung Karlsruhe, affiliated to the world renowned Zentrum fuer Kunst und Medientechnologie (ZKM, Germany). Since he joined the School of Art, Design and Media at the Nanyang Technological University.

#### **STEFFEN SCHMIDT**

##### **ABSTRACT**

**Performing the Uncanny:** Along the history of staging the uncanny, E.T.A. Hoffmanns Novel „The Sandman“ takes a central role of different theatrical interpretations, such as „Coppelia“ (Leo Delibes) in ballet, „Les contes de Hoffmann“ (Offenbach) in opera, or „Metropolis“ (Fritz Lang) in film. Representing the „uncanny“ through the human body, a mimetic desire can be seen, which traces back to the romantic era and leads to present performances in electronic music (Kraftwerk), Break Dance and Contemporary Dance and finally in film and acting (5th Element, Real Humans). Beside these demonization's of the artificial, another line can be investigated by establishing the opposite: The Muzak Corporation was founded in the 30ies of the 20th century to take away the uncanny from new inventions, such as elevators. In "Variation VI", a performance by John Cage, electronic tools for household and radio player were used to create new sounds, derived from the confrontation between human action and machine, in everyday life. After having discussed the material of the uncanny with its nimbus of demonization, this contribution takes the pladover from a Cageian performative setting to discover the sound world of new technical equipment, which concerns human lifelines. This was based on my own experiences from a performance, given in 2011 at the Montreux Jazz Festival, where an Echocardiogram was used as a musical instrument, in which the sonic possibilities of the machine are demonstrated through a compositional confrontation.

#### **BIO**

**Steffen A. Schmidt** (Dr. phil. habil.) Head of Postgraduate Programme Cultural Media Studies at the ZHdK; Teacher on Music History and Theory, Film Music, Music Theatre, Musical Analysis, composer and musical performer for contemporary Dance and Theatre in Berlin and internationally; Project on Heart Beats; Research on musical Rhythm and Intermedia Theory.

#### **BIO MODERATOR**

**Boris Magrini**, Swiss art historian and curator. Focus: The intersection of arts, technology, science and society. Curatorial projects: Duplex in Geneva, I Sotterranei dell'Arte in Monte Carasso, Kunsthalle Fribourg and Kunsthalle Zürich, Mutamenti Bellinzona, 2007), Anathema (Fri-Art, Fribourg, 2007-2008), Modifier (Dienstgeb.ude, Zurich, 2010) and Leise Rehe – Wilde Beeren (Cabaret Voltaire, Zurich, 2011-2012). Talk series: Reality Check (Kunsthalle Zürich 2014) Hackteria Swiss Curriculum (Corner College with Hackteria. Editor: Italian pages of Kunst-Bulletin (Switzerland). Publications: Leise Rehe-Wilde Beeren: "Hackteria: An Example of Neomodern Activism" (Leonardo Electronic Almanac) and "Beyond Mere Tools", in Political Interventions, Edition Digital Culture 1.

**BOOK LAUNCH-  
TRANSDISCOURSE 2: TURBULENCE AND RECONSTRUCTION- Ed. SCOTT.**

*6:30 pm, 20<sup>th</sup> of February*

**This is a new Cultural Studies book. It is an anthology of viewpoints on society from the arts and the sciences.** The authors in this book were collected together because of their shared concern for society. They all believe that the arts and the sciences are effective spaces to raise public awareness and to encourage us to think differently about our old and out-dated concepts of representation and categorization and reconstruct new potentials about how the designs of the future might benefit our environment and the survival of our bodies. Essential to all writers is the need to drop our old disciplinary boundaries to question our interdependent relationship to technology and to reality. Turbulence and reconstruction are processes that not only affect our representation and categorization, our designs for agriculture, urban nature and energy consumption but also our relation to media and technology– the virtual, digital ideologies of interaction and substitution.

**THE AUTHORS:** ANNA ACHELNIK, TERESA CHEN, HUGH DAVIES AND VINCE DZIEKAN, ANGELIKA HILBECK AND HERBERT HILBECK, SUSANNE N. HILLMAN, AGNIESZKA JELEWSKA, CHRISTOPH KUEFFER AND JILL SCOTT, ELLEN K. LEVY, JOHANNA LIER, BORIS MAGRINI, PATRICK MORIARTY AND DAMON HONNERY, JUERGEN MORITZ, JAN SŁYK, KIT WISE

---

## MODELS OF DIVERSITY CONFERENCE PROGRAM

**DAY ONE: 19<sup>th</sup> of February 2016**

**Institute of Integrated Biology ETH ZURICH –  
IBZ Building, Universitätstrasse 16, Zurich, Lecture Hall C14**

- 8:30** Opening: **Angelika Hilbeck & Jill Scott**  
**8:40** Welcome Address: **Tom Peter**, Acting Head of Department of Environmental Systems Science (tbc)  
**8:50** Key Note - **Ignacio Chapela**, University of California, Berkeley, CA, USA; currently: Visiting Professor, Institute of Integrative Biology, ETH Zurich  
*This One World Today — the Models we Make of Ourselves*

<b>Discourse Title</b>	<b>Speaker 1 (Z-node RESEARCHERS) 20 mins presentation</b>	<b>Speaker 2 Scientists or Z-node Supervisors 20 mins</b>	<b>Invited Moderators/ Discussants 20 mins</b>
<b>9.30 Resources 1 Healthy Water Quality</b>	<b>Tiffany Holmes</b> , Media Artist, Professor in the Art and Technology Studies Department, Chicago Art Institute, US	<b>Christopher T. Robinson</b> , Senior Research Scientist, Department of Aquatic Ecology, EAWAG, Zurich-Dübendorf, Switzerland	<b>Angelika Hilbeck</b> Senior Scientist, Institute of Integrative Biology, ETH Zurich, Switzerland
<b>10.30 Resources 2 Healthy Air Quality</b>	<b>Andrea Polli</b> , Sound Artist, Professor at Mesa Del Sol Endowed, Chair of Digital Media at the University of New Mexico, USA	<b>Andreas Fischlin</b> , Prof. Em Head of the Terrestrial Systems Ecology Group Institute of Biogeochemistry and Pollutant Dynamics (IBP) of ETH Zurich, Switzerland	<b>Christoph Küffer</b> Professor for Urban Ecology, Dept. Land- scape, Architecture, University of Applied Sciences, Rapperswil
<b>11.30 Coffee</b>			
<b>11.45 Knowledge Part 1 - Resilience</b>	<b>Aviva Rahmani</b> Artist, NYC. Affiliate at INSTAAR Gulf to Gulf project. Boulder, Colorado USA	<b>Christoph Küffer</b> , Ecologist, Professor for Urban Ecology, Department of Landscape, Architecture, University of Applied Sciences Rapperswil	<b>Ignacio Capela</b> Microbial Ecologist, University of California, Berkeley, CA, USA
<b>12.45 LUNCH</b>			
<b>13.45 Knowledge Part 2 - Agriculture .</b>	<b>Eugenio Tisselli</b> Artist, Writer and Programmer, Founder of the interdisciplinary project ojoVoz, Mexico	<b>Angelika Hilbeck</b> Senior Scientist, Institute of Integrative Biology, ETH Zurich, Switzerland	<b>Pat Badini</b> Artist, NMC Board of Directors' Officer, Editor-in-Chief <i>Media-N</i> , Journal of the New Media Caucus, Canada
<b>14.45 Coffee Break</b>			
<b>15.00 Environment 1 Evolution and Cellular Metaphors</b>	<b>Jill Scott</b> Media Artist, Professor for Art and Science Research, Founder of the Artinlabs Program, Institute for Cultural Studies in the Arts, Zurich University of the Arts ZHdK, Switzerland	<b>André Lehnerr</b> PhD student at The Institute of Molecular Life Sciences in the Neuhauss group: Vision Systems. University of Zurich, Switzerland	<b>Joanna Hoffman</b> Media Artist, Professor, University of Art in Poznan, Poland
<b>16.00 Environment .2 Trans-disciplinary Frameworks</b>	<b>Juanita Schlaepfer-Miller</b> Art and Science Communicator, Zurich-Basel Plant Science Center, ETH Zurich, Switzerland	<b>Christian Pohl</b> Theorist, Co-director of the Network for Trans-disciplinary Research (td-net) and Chair of the Sustainable Development (Universities Programs) Swiss Academies of Arts and Sciences	<b>Susanne Witzgall</b> Theorist, Lecturer, Department of Art History of the Academy of Fine Arts in Munich, Germany

- 17.00** **FINAL COMMENTS “Models and Correlations” by Angelika Hilbeck**  
**17.15- 18.30** **DRINKS WITH ARTISTS IN THE EXHIBITION: GROUNDED VISIONS: GREEN FLOOR** The Artists who are in the exhibition will present their work to the conference public.

## MODELS OF DIVERSITY CONFERENCE PROGRAM

**DAY TWO: 20<sup>th</sup> of February 2016**

**Institute for Cultural Studies in the Arts, ZHdK, Zurich, Toni Areal,  
Pfingstweidstrasse 96, Zurich, Room 5.K12**

**8:30** Opening **Angelika Hilbeck & Jill Scott**

**8:35** Welcome Address: **Sigrid Schade**, Director Institute of Cultural Studies in the Arts, Zurich  
University of the Arts ZHdK

**9.00** Keynote **Roy Ascott**, President of the Planetary Collegium, University of Plymouth,  
UK, and DeTao Master of Technoetic Arts, DTMA, Shanghai, China.

<b>Discourse Title</b>	<b>Speaker 1 (Z-node RESEARCHERS) 20 mins presentation</b>	<b>Speaker 2 Scientists or Z-node Supervisors 20 mins</b>	<b>Invited Moderators/ Discussants 20 mins</b>
<b>9.45</b> <b>Materiality and Behaviour</b>	<b>Karmen Franinovic</b> Designer and Architect, Head of Interaction Design, Zurich University of the Arts ZHdK, Switzerland	<b>Daniel Bisig</b> Media Artist and Biochemist, Senior Researcher, Department of Computer Music, Zurich University of the Arts ZHdK, Switzerland	<b>Darcy Alexandra</b> Visual Anthropologist, writer, ethnographer, Centre for Transcultural Research and Media Practice, Dublin Institute of Technology, Dublin, Ireland
<b>10.45</b> <b>Behaviour and Space</b>	<b>Monika Codourey</b> Architect, Head of Research Office LAB /Senior Project Leader, Offconsult AG Zurich, Switzerland	<b>Mike Phillips</b> Artist, Professor of Interdisciplinary Arts, School of Art and Media, University of Plymouth, UK	<b>Irène Hediger</b> Curator and Head of Projects Artistsinlabs, Institute for Cultural Studies, Zurich University of the Arts
<b>11.45 Coffee</b>			
<b>12.00</b> <b>Materiality and Physics</b>	<b>Andreas Schiffler</b> Media Artist and Physicist, Senior Software Engineer, Microsoft, Seattle, USA	<b>Alexander Penn</b> Physicist and Researcher, Lab for Energy Science and Engineering, D-ITET, ETH Zurich, Switzerland	<b>Marille Hahne</b> Filmmaker and Precision Tool Engineer, Professor for Filmmaking, Dep. Performing Arts and Film, Zurich University of the Arts
<b>13.00 Lunch</b>			
<b>14.00</b> <b>Representation and "The Self"</b>	<b>Nicole Ottiger</b> Artist, Art Therapist at Cantonal Psychiatric Clinic Wil, Switzerland	<b>Dieter Mersch</b> Philosopher, Director Institute for Theory, ith, Zurich University of the Arts ZHdK, Switzerland	<b>Jill Scott</b> Media Artist, Professor for Art and Science Research, Institute for Cultural Studies in the Arts, ZHdK
<b>15.00</b> <b>Representation "Other" Subjects</b>	<b>Teresa Chen</b> Artist and photographer, represented by Bob Gysin Gallery, Zurich	<b>Therese Steffen</b> Theorist, Professor in Cultural Analysis, University of Basel, Switzerland	<b>Sigrid Schade</b> Theorist, Director of the Institute of Cultural Studies in the Arts, Zurich University of the Arts ZHdK
<b>16.00 Coffee</b>			
<b>16.15</b> <b>Sociology and Sociable Technologies</b>	<b>Jürgen Moritz</b> Media Artist, Lecturer, Assumption University of Thailand, Bangkok, Thailand	<b>Matthias Vogel</b> Theorist and Researcher, Institute for Theory ith, Zurich University of the Arts ZHdK, Switzerland	<b>Mike Phillips</b> Artist, Professor of Interdisciplinary Arts, School of Art and Media, University of Plymouth, UK
<b>17.15</b> <b>Artificial Theatre</b>	<b>Louis-Philippe Demers</b> Robotic Artist, Associate Professor at Nan Yang Technological University, Singapore	<b>Steffen Schmidt</b> Musicologist, Lecturer, Institute for Cultural Studies in the Arts, Zurich University of the Arts ZHdK, Switzerland	<b>Boris Magrini</b> Art Historian and Curator, Italian Editor of Kunstbulletin, Switzerland

**18.15** Final comments "Diverse and Creative Research" by **Jill Scott & Sigrid Schade**  
**18:30** **BOOK LAUNCH PARTY "Transdiscourse 2: Turbulence and Reconstruction"**  
**Birkhäuser/De Gruyter, Ed. Scott. Introduction by Sigrid Schade.**