

← now assist AI. Equipped with VR goggles and connected eye-tracker systems their human glances indicate where to expect the next movement within the microscopic image. That way they enable AI to concentrate solely on the relevant detail of the image rather than recapture the entire image each and every time.

ROBOT (ROBOTER)

ISA WILLINGER

Film director and author

Our life with robots

Whenever humans and talking machines interact, communications between them are at times somewhat faltering. And yet scientists are predicting that in future they will have to cohabit intensively. Using two scenes from her award-winning documentary Hi, AI (2019), film director Isa Willinger talks about encounters with AI and robots as well as with people who live together with robots. A key issue for her is whether this might in fact represent our initial experiences with a new species.

SOPHIE ZORN

Head of Motion Control, WandelBots GmbH, Dresden

Who dares to control an industrial robot?

Until recently, controlling robots was up to highly qualified mechatronics engineers, who programmed complex computer codes line by line. It is only recently that start-up companies have also begun developing low-threshold interfaces. Cross-platform training methods, sensor technology for the transmission of motion and graphical user interfaces open up less cost-intensive access points to robot technology.

SEX TECH (SEX-TECH)

ELLE NERDINGER

Designer and cultural commentator, expert on emancipatory everyday eroticism and Fair Sex Sells, chair of Cyborg e. V.

Sex-Tech: Disturbing obscenities or an intersectional sexual revolution?

Polarised outrage is almost guaranteed to flare up in a knee-jerk reaction when it comes to expanding sexuality, e.g. through sex robotics. Such scandalised outrage is reflected

in the feminisation of assistance software such as Siri and Alexa. Together they both conceal and suppress the potential for emancipated eroticism inherent in the new technologies.

SPECULATION (SPEKULATION)

ALEKSANDR DELEV

Hyperstitionist and architecture student

AI Cathedral vs Crypto-Club

EXERCISE

Everything is addressable; is there even such a thing as an outside when it comes to the technological space? If we want to continue down the path of technological progress and don't want to be swallowed up by it, then we need to empower ourselves technologically. Immerse yourself in future architectures of the digital world with Aleksandr Delev and put your own scope of action to the test – an exercise in the speculative hastening and embracing of non-understanding.

SPIRIT (GEIST)

SEBASTIAN SCHMIEG

Artist and programmer, Faculty of Design, Dresden University of Applied Sciences

Ghost-like networks

Ghosting refers to the practice of ending an intimate relationship where one partner blocks the other on all online channels and profiles, rendering them invisible on those platforms as a result. But there are plenty of other ghosts dodging issues on the internet: work becomes invisible, companies and power correlations are concealed, and individuals become irrelevant. A discussion of the risks and benefits of disappearing and resurfacing in digital networks.

USERS/CITIZENS (USER/BÜRGER)

JEANETTE HOFMANN

Political scientist, Social Science Research Centre Berlin

Online citizens

In the age of digitisation, the societal context changes, too. AI and big data analyses produce new notions of who we are as human beings, which compete with the image of the citizen making rational decisions. Stepping into the societal arena are subjectivities that fan out based on preferences and feelings

while constantly being subject to the suspicion that they are being manipulated without the possibility of resistance. Citizens as user identities ... isn't that asking for trouble?

MAX STADLER

Science historian, Swiss Federal Institute of Technology (ETH)

From worker to user

The recent history of AI is tightly interwoven with post-industrial ideologies of labour; and therefore with what has been talked about since the 1980s under the user rubric: i.e. users of 'humane' machines. The consequences of these entanglements remain ambivalent. The 'naturalness' of interactive intelligence, which was once formulated as a critique of rationalisation, computerisation and automation, is today the mainstay of inhumane technologies.

WORK (ARBEIT)

FLORIAN ALEXANDER SCHMIDT

Professor for conceptual design and media theory, Dresden University of Applied Sciences

Digital migrant labour

'Magical AI' is being touted at the front end of the latest developments in digital technology. Back-ending it are crowd workers busy processing the data which will then teach our cars to drive. Hundreds of thousands of workers toil away in pseudo self-employment for crowd-working platforms, of which some are currently recruiting 75% of their workforce from Venezuela, which has a mix of high standards of education and existential need.

SEBASTIAN SCHMIEG

Artist and programmer, Faculty of Design, Dresden University of Applied Sciences

Click, click, click

Everyone on the internet is equal and doing their bit: drawing up profiles, solving captchas, and producing data trails. However, some are less equal than others. For our smart computer programs to work properly, people elsewhere have to do the groundwork under precarious conditions. Even in the new age of AI, outsourcing still works beautifully. But by the same token, does this form of platform capitalism also open up new opportunities for the redistribution of privileges?

CAPTCHA! MACHINES LEARN TO ACT FROM HUMANS WHO DON'T UNDERSTAND WHAT THEY KNOW.

By the time the first CAPTCHA tests began to appear around the turn of the millennium, it was clear that Artificial Intelligence (AI) had definitely become a problem. So now, to be able to access certain websites, you need to prove you're a human being and not a computer program, for example by correctly identifying graphically distorted sequences of characters or zebra crossings. CAPTCHA stands for 'Completely Automated Public Turing Test to tell Computers and Humans Apart'. The more often we complete this test, the better computers will become at simulating us since each result is fed back

to these learning machines as a training unit. By the same token, with each test, we ourselves become more and more computer-like as we adapt to their way of thinking. As a homophone, the CAPTCHA acronym sounds like 'to capture'. The question is: who's capturing who?

The continual expansion of the sphere of interaction between human beings and increasingly autonomous digital technologies has become patently obvious. The Dresden Blackmarket for Useful Knowledge and Non-Knowledge is all about that expansion and how we engage with it. Machines mimic our in-

dividual and collective behaviours. But do we actually understand what sort of knowledge is emerging as a result? And do we recognise ourselves in that reflected knowledge? It remains the subject of a great deal of debate whether the steady and continuous progress of technological developments can ever be referred to as Artificial Intelligence in the full sense of the word. The Blackmarket is an opportunity to find out more about it. What's more, AI certainly fires the collective imagination and provides a code for the social debate about digital culture as it currently stands.

CHECK-IN You can book the experts for the first round from 6 pm onwards. Participation in one 30-minute dialogue costs 1 euro. A total of 180 talks and tutorials are on offer, and you always have the possibility of registering for the next round.

LANGUAGES We offer talks in five languages: German, English, French, Croatian and Russian. Please enquire at the check-in desk.

LISTEN TO BLACKMARKET RADIO! Listen to a selection of talks on Blackmarket Radio's six channels. Headphones are available for hire at the venue, free of charge (on presentation of a valid ID card).

FOR THE DEAF AND HEARING IMPAIRED

Do let us know if you require German sign language translation. Some of the talks are available with simultaneous interpretation.

MOBILE AKADEMIE BERLIN

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DEUTSCHES HYGIENE-MUSEUM, DRESDEN

Project Co-ordination, Facilities, Controlling, PR and Graphics

We wish to thank the **Wiener Festwochen** for their generous support with the set designs and **Marian Kaiser, Nicholas Bussmann** and **Stefan Heidenreich** for their invaluable input.

A co-production by Mobile Akademie Berlin and the Deutsches Hygiene-Museum Dresden in collaboration with the Dresden University of Technology and the State Capital of Dresden as part of the 2019 Science Year – Artificial Intelligence

DEUTSCHES HYGIENE-MUSEUM
06/12/2019_Fr_7–11 p.m.
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ACT FROM HUMANS WHO DON'T
UNDERSTAND WHAT THEY KNOW.

BLACKMARKET FOR
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Wissenschaftsjahr 2019

KÜNSTLICHE
INTELLIGENZ

ACTIVISM

KATHARINA KLAPPHECK

Political theorist and AI enthusiast

AI, garden gnomes and the new geekiness

The benefits of AI are limited to the white heterosexuals of this world. Can AI also be Robin Hood, without gender, dis*abled and black? The revolution without subject, but with a cat video attachment? These are just some of the issues to be explored in a biased way, with no due regard for good taste or scientific caution. In the hope, some day, of leaving behind on our planet something more than fridges capable of placing orders autonomously.

TIARA ROXANNE

Indigenous Cyberfeminist, Artist and Poet, DeZIM Institut, Berlin

On the Fringes of Digitality – AI & Indigeneity (Exercise)

Indigeneity is earthly. The digital is systematic. Nothing could be farther apart. Nevertheless, the continuing existential threat to Indigenous communities worldwide raises questions about a less-burdensome future in the digital sphere, or a future at all. The artist takes you on an experimental journey into aporetical concepts by engaging with red textiles.

ART BUSINESS

PAUL FEIGELFELD

Cultural and media scientist and curator

UNCANNY VALUES. Artificial Intelligence & You This was the title of an exhibition co-curated by Paul Feigelfeld that ran at the Museum of Applied Arts in Vienna until October 2019 as part of the 2019 Vienna Biennale. Showcasing artistic works, it told a story of AI and of mankind's self-image that went back to the beginnings of computer technology. The curator has brought along two of the exhibits to illustrate the concept of the exhibition.

KONSTANZE SCHÜTZE

Curator and art educator, University of Cologne 'Dear Humans, ...'

The discourse and exhibition project of the Atlanta Gallery of the Office for Academic Heritage, Scientific and Art Collections at TU Dresden examines the topic of 'Mensch 4.0' in cross-disciplinary research settings involving artists, scientists and engineers and addressing issues such as: What narratives of the future shape our present? And through what images, objects and formulas do these notions become an effective reality?

ARTIFICIAL (KÜNSTLICH)

PAUL FEIGELFELD

Cultural and media scientist and curator

Intelligence is always artificial

In evolutionary terms homo sapiens as a species is a parasite of the technologies it has generated. Every new tool has altered not just our environment, but us too as human beings. And ever since we have been capable of thought, 'artificial' intelligence has been part of our evolution. We have never thought on our own; indeed, it is questionable whether we would even be able to do so. The exaggeration we refer to as intelligence continually produces the artistic and the artificial, tools, resources and media.

SIMON HEGELICH

Political data scientist, Technical University of Munich

The artificial intellect

An artificial intelligence deserving of that name is not in sight. But it will come, and sooner than most people think. An artificial intellect will not think in the same way as a human being thinks. But then again, an aircraft doesn't fly the way a bird does. If we succeed in integrating modern advances in pattern recognition into a system that establishes speculative new connections, that invention will expand human capabilities to new realms.

BABYLON

JULIA KRÜGER

Policy developer: phaenomen.org/node/1, author: netzpolitik.org, fellow: cihr.eu

Bubble fish

In the early days of the internet, the hope was that it would broaden the horizons of its users towards global knowledge. But since the big social media providers built their businesses first and foremost on filter bubble technologies, that hope has largely evaporated. The world views of today's internet users constructed on AI, hate speech and fake news are largely idiosyncratic and tendentious. What are we to do?

MAX PRIEBE

Social scientist, Institute for the Urban Future at the University of Applied Sciences Potsdam

Smart City or smart citizens?

Smart City concepts cover all areas of urban life, from politics and administration to police and security, mobility and energy, trade and the economy. The cross-sectoral networking of data and its AI-supported analysis holds the promise of answers to some of the acute problems of our city cultures. The debate is whether this ultimately leads to a renaissance of technocratic city management or whether it will in fact broaden opportunities for democratic participation.

BIPOLAR (BI-POLAR)

JULIA SCHNEIDER

Author, member of the Scientific Committee of the Association of the Exoskeleton Industry e. V. (VDEI) and the Track Team of re:publica

We need to talk, AI ...

Consultancy

The comic strip essay We need to talk, AI by author and data scientist Julia Schneider and graphic artist Lena Kadriye Ziyal looks at big data, feminism, data capitalism, inclusion, and data-based discrimination. The discussion is an invitation, inspired by excerpts from the comic strip, to talk with the author about AI-related fears and optimism.

CLIMATE (KLIMA)

JOHANNA POHL

Environmental engineer, Centre for Technology and Society, Technical University of Berlin

How light is the Cloud?

The term 'cloud computing' makes digital technology seem weightless and ethereal. And yet, almost half of all the elements on the periodic table are built into your average smartphone, and every online search costs energy – not to mention the actual training involved in AI. So digital technology has now become one of the biggest consumers of electricity worldwide. Yet we hear far too little about the climate impact of digitisation.

KARL WILD

Agricultural systems technician and farmer, Faculty of Agriculture/Environment/Chemistry, Dresden University of Applied Sciences

COLLECTIVE (KOLLEKTIVE)

JULIA SCHMELZER, THOMAS SCHMELZER

Artists and curators of the PYLON-Lab, Dresden

AI – Collective Intelligence?

PYLON-Lab's exhibition practice focuses on engaging artistically with digital culture. Here the two curators are showcasing two current artistic positions. They depict AI as a form of collective intelligence and speculate on a technological development that calls into question the existence of any physical boundary: Wermke/Leinkauf's 4th Half and Lawrence Abu Hamdan's Walled Unwalled.

DEATH (TOD)

BERND HOPFENGÄRTNER

Speculative designer

and WENZEL MEHNERT

Speculative futurologist

AI against extinction – An exercise in speculative, prospective past

EXERCISE

Every day some 150 species of animals and plants die out around the world. Digital technology cannot prevent it, but it can help to archive the diminishing diversity. Databases store not just the most important genetic data, but also the relationships between the species and their ecosystem-based meshwork. And what if, in the future, it was possible to revive that meshwork?

DEMOCRACY (DEMOKRATIE)

JEANETTE HOFMANN

Political scientist, Social Science Research Centre Berlin

Democracy in a digital society

It is often claimed nowadays that social media pose a threat to democracy. But that is to forget that they also serve to broaden the public sphere and possess a huge democratic potential. Digitisation occurs within a societal context that we are able to influence. Not least, social media offer the opportunity to remodel society in a new way and regenerate democracy.

PETRA GEHRING

Philosophy professor and expert on scientific information infrastructures, TU Darmstadt

Do we need digital ministries – and if so, how many?

A particularly interesting aspect of AI consists of the conflicting expectations associated with this keyword in the world of politics. How do politicians talk about IT and AI, and how are they going about shaping these sectors (or not)? Here Germany and Europe need to venture into entirely new political territories – which is true also of citizens.

DUPLICATION (VERDOPPELUNG)

SANDER MÜNSTER

Digital humanist

1206 – 2019: Dresden in 3D

Being able to use a time machine to travel back into the past and see with one's own eyes what the world was like back then is a long-held dream of ours. As part of the European co-operation project Time Machine scientists from a wide array of disciplines are now working on making that dream come true. The history of a total of 25 cities, including Dresden, is to be visualised as a new, physical experience by digitally processing sources, city views and maps as well as their presentation in elaborate 3D environments.

EMBODIMENT (VERKÖRPERUNG)

JOHANNA ROGGAN

Dancer and choreographer, the guts company and VILLA WIGMAN, Dresden

Dances with AI

What does it feel like to dance with an electronic space? As a dancer, your interlocutor has gathered a wealth of experience with experimental and digitally enhanced dance situations. She concludes that the illusion of communication is the focal point and crux of successful interaction between man and machine. As there is no Turing Test for dance, AI as a dance partner is best materialised not as an image but as sound.

FACE (GESICHT)

ADAM HARVEY

Artist and technologist. Research associate at Karlsruhe HfG KIM programme

What is a face? Deconstructing biometric identity

Nothing seems to be as close to us, as unique, and as readable at the same time, in short: as human, as another person's face. Yet, software developers and facilitators these days claim their AI has reached a face recognition level equal or even superior to human capacity. Does that mean that machines beat us on our very home turf? And if not, what kind of face is (re)constructed by them, what layers of recognition do they miss, and which ones do they even add?

ELKE OBERG

Marketing manager and spokesperson for the facial recognition software company Cognitec

Systems GmbH, Dresden

Face (re)constructions

Nowadays facial recognition works perfectly under optimum conditions. That's practical, but also sinister, especially when you think of the surveillance state dimensions. Pivotal development stages in the technology that is now used worldwide were initially made in Dresden. A talk about the 20-year history of this commercial development between family album and police database.

FALSE PLAY

CHRISTY LANGE

Programme Director of Tactical Tech, Berlin

Fake or real?

The market for digital products, which contain or claim to contain AI is proliferating. In this rushing innovation process, the borders between what's normal and what's not are blurred. What can we learn about ourselves and about our societies by looking at which techno-

logies we are trying to build? Just because we can make these technologies doesn't mean we should. The talk offers a game: Find out which „AI“-driven services are already on the market and which ones are (still) science fiction!

MORITZ LOBECK

Musicologist, dramaturge and curator, HEL-LEAU – European Centre for the Arts

It's the attitude!

Until now creativity and the ability to create art appeared to be the preserve of human beings. But in music in particular there have been numerous attempts over many years to use AI to create artworks, vaunting software capable of 'cracking any improvisation code'. So what did Miles Davis have in mind when he said: 'Anybody can play. The note is only 20 per cent. The attitude of the motherfucker who plays it is 80 per cent.?'

KATHRIN PASSIG

Bot author, specialist in artificial stupidity and simulated intelligence

How to simulate AI

Advisory service

Artificial intelligence is nice, but it's a lot of work. Which is why, often, it's just a couple of text modules in a box with eyes on it. An advisory service for all those who want to simulate AI or recognise simulated AI.

NELE FISCHER

Critical futurologist

Feed, spit and nurture

Stories about AI often reference Promethean myths: intelligent machines as the creation of mankind aspiring to the divine. In common parlance this view expresses itself in its own way. Technology is anthropomorphised and treated like a small child. Data needs to be 'fed in' and then 'spat out', information 'populated', and AI 'needs to learn'. But what sort of metaphors can we expect should AI ever outgrow 'early childhood'?

FEAR (ANGST)

HERMANN DIEBEL-FISCHER

Theologian, techno-ethicist, critical progress enthusiast, University of Rostock

I fear AI

Every new technology raises its own particular fears. They are indicative of deep-lying notions, often grounded in religion. As AI becomes more and more widespread, are we therefore heading towards a new religion of data, one in which human values are replaced by technical parameters? This talk examines the fears triggered by AI and contrasts them with the opportunities associated with the new technologies.

FIGURES & PLAYERS

JAN KUNKEL

Technical drawer, science fiction author, social education worker

Fortnite & Co are the new casinos

'Open the treasure chest and discover a legendary weapon!' 'Purchase tokens and go up one level!' When it comes to computer games, often it's not the games themselves that are questionable, but the way they are networked online. Jan Kunkel himself was once addicted to a gamer's career and uses a narrative featuring the plots and gaming elements of Fortnite and World of Warcraft to illustrate how online computer games work and what sort of dependency mechanisms they trigger.

LEARNING (LERNEN)

DIANA GÖHRINGER

Professor for adaptive dynamic systems, Faculty of Computer Science, TU Dresden

Introduction to the functionalities and principles of adaptive systems

Robots with AI usually have to be permanently online in order to let their learning algorithms run. But Diana Göhringer and her team are working on designing robots based on self-learning platforms as smaller, autonomous units. This calls for adaptive systems, i.e. a form of intelligence capable of adapting its actions locally and situation-based, without requiring a huge computing effort to determine the general case, as hitherto, in order to derive the specific action.

LOGIC & LOGISTICS (LOGIK & LOGISTIK)

SARAH GAGGL

Computer scientist, Institute of Artificial Intelligence, TU Dresden

Closed Worlds

Answer Set Programming (ASP) is a common method for solving complex decision problems, for instance compiling timetables or schedules using logical programming languages. This entails determining a set of rules beforehand, i.e. constructing closed worlds. How this works and the implications involved is demonstrated in the talk using the seating plan for a birthday party.

MAN-MACHINE (MENSCH-MASCHINE)

SEBASTIAN BODENSTEDT

Computer scientist, Translational Surgical Oncology, National Centre for Tumour Diseases Dresden

The operating theatre of the future

The degree of technology penetration in surgery attains a new level with the use of methods such as AI, the focal point of current research in the Dresden project on the operating theatre of the future. Machines could, for the first time, participate proactively in surgical procedures through situational analyses, risk assessments and the provision of knowledge. But what sort of technical and social difficulties would we then have to consider?

SHU-CHEN LI

Faculty of Psychology and CeTI, TU Dresden

Brain Development and next Generation Human-Machine Interactions

Brain Development and next Generation Human-Machine Interactions

Brain development across the lifespan affects perceptual precision and cognitive capacity in people of different ages. Such age-related effects need to be seriously considered when designing new AI technologies, in order to digitally transmit our tactile and haptic impressions. Thus, we could remotely manipulate machines or co-work with robots and humans.

PERCEPTION (WAHRNEHMUNG)

ULRIK GÜNTHER

Physicist, computer scientist, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden

The best of both worlds

The digital modelling of biological organisms generates terabytes of data. To help reduce the vast volumes of data involved during the subsequent processing stages, human operators

