

Digging deep to meet artistic interventions hidden in the digital fabric

Prof. Dr Inge Hinterwaldner
Karlsruhe Institute of Technology

What lies beneath the surface of computational artworks? Online pieces have 'roots' that extend much deeper than the flat screen monitors on which we view them—they may even be distributed, occupying multiple sites on the internet. The ERC project Coded Secrets: Artistic Interventions Hidden in the Digital Fabric (COSE) develops hybrid methodologies to investigate where, how and why net art is situated.

There is much more to digital artworks than the image we see on the graphical user interface. On the computer screen, we perceive just a few of their facets. Most scholars in the humanities can offer only an educated guess of what is happening 'under the hood'. They might have some intuition of how this other 'side' of the works 'underneath' the display surface could be imagined, but this does not generally extend beyond vague or commonplace distinctions. This holds for the inner workings of code-based pieces as well as their embeddedness in a networked situation like the internet. Consequently, theory building about digital imagery often lacks complexity and is based in very general assumptions.

Towards extended portraits of artworks

It is vital to expand the zone of analysis to what academic texts often call 'behind'

or 'beneath' when referring to the invisible side of computer-based works. In addition, discussion of 'layering' or 'depth' ultimately touches on topological issues. Are 'layering' and 'depth' problematic figures of thought for the web stack? In media theory, 'depth' may suggest a hierarchisation between the steering deep and the derivative surface. COSE will analyse the potential benefits of alternative conceptual lenses, such as weaving or rhizome, as conceptual lenses through which to study the corpus. Each theory filter has biases and allows different aspects to be highlighted.

When looking for spatial or topological ideas on offer in this context, it should be noted that early discussions of online art introduced the difference between 'net art' and 'web art'—without, however, going into any depth or specifics regarding protocols and topology. Figure 1 nicely depicts this conceptual void concerning

the living conditions and networked techno-ecosystem of internet art. The art is situated between two monitor outputs, on[a]line. This (printed) animated GIF with blinking red flash is to be interpreted with a wink. It shows a 'relational space' or an 'in-between'. But 25 years on, we are basically still on the same level of abstraction when confronted with the hypothetical task of locating net art in the manifold network assemblage.

For sure, there is a considerable challenge in the simple idea and wish to put this complex situation in front of one's eyes. Nobody has ever been able to get a glance at the responsive and connective agency of internet-based artworks with their own eyes. For this, the aforementioned conceptual work has to be done, and a variety of methods will be employed to work towards that end: phenomenological approaches, interviews and forensic code analyses. They converge into the development of multimodal and multi-perspectival visualisations (Figure 3). The latter is done to reveal the inner workings of our case studies (Figure 2) and their embeddedness in the net.

The concrete visualisations embodying this topological conception may be characterised as 'extended portraits' of the artwork, including its structure,

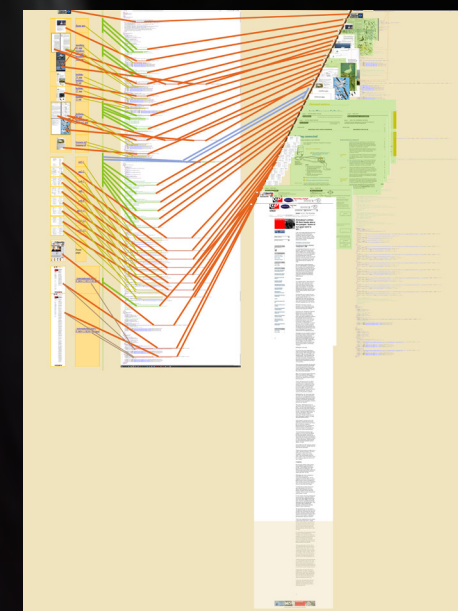


Figure 2: Comparative visualisation of website renderings, 2021. This visualisation compares the rendering logics of the two web browsers Hiperlook (2002) and Mozilla Firefox 78.2.0esr (64-Bit).

runtime, connectedness, situatedness, history or social factors. How to provide novel insights into the 'machine room' of coded art? Building on common sense metaphorical knowledge, depicted elements should embody their functionality and show what they do. The famous computer animation *Warriors*

of the Net (1999) can be a role model here (Figure 4). It shows some instances of an IP packet's journey through the net, being handled by routers, router switches, proxies and firewalls. These highly ungraspable events are depicted by activating the viewers' associations of highways, assembly lines and flippers.

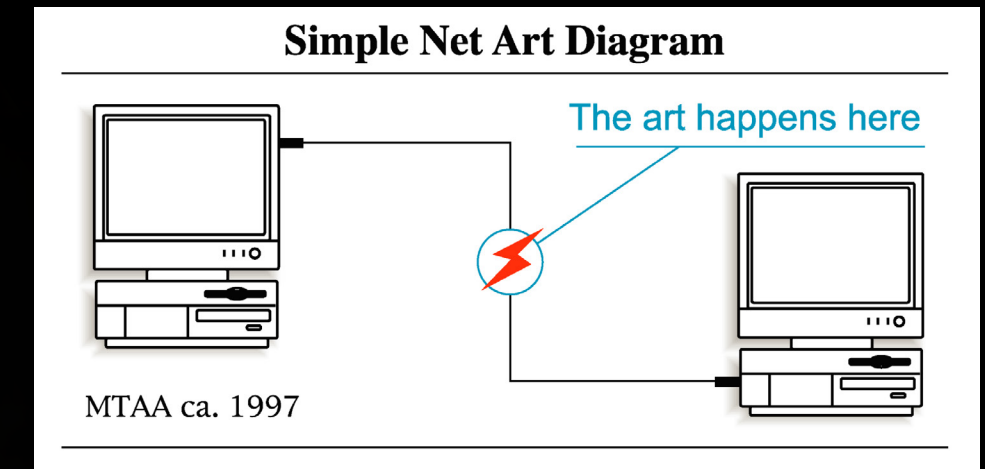


Figure 1: MTAA (alias Michael Sarff and Tim Whidden): Simple Net Art Diagram, 1997.

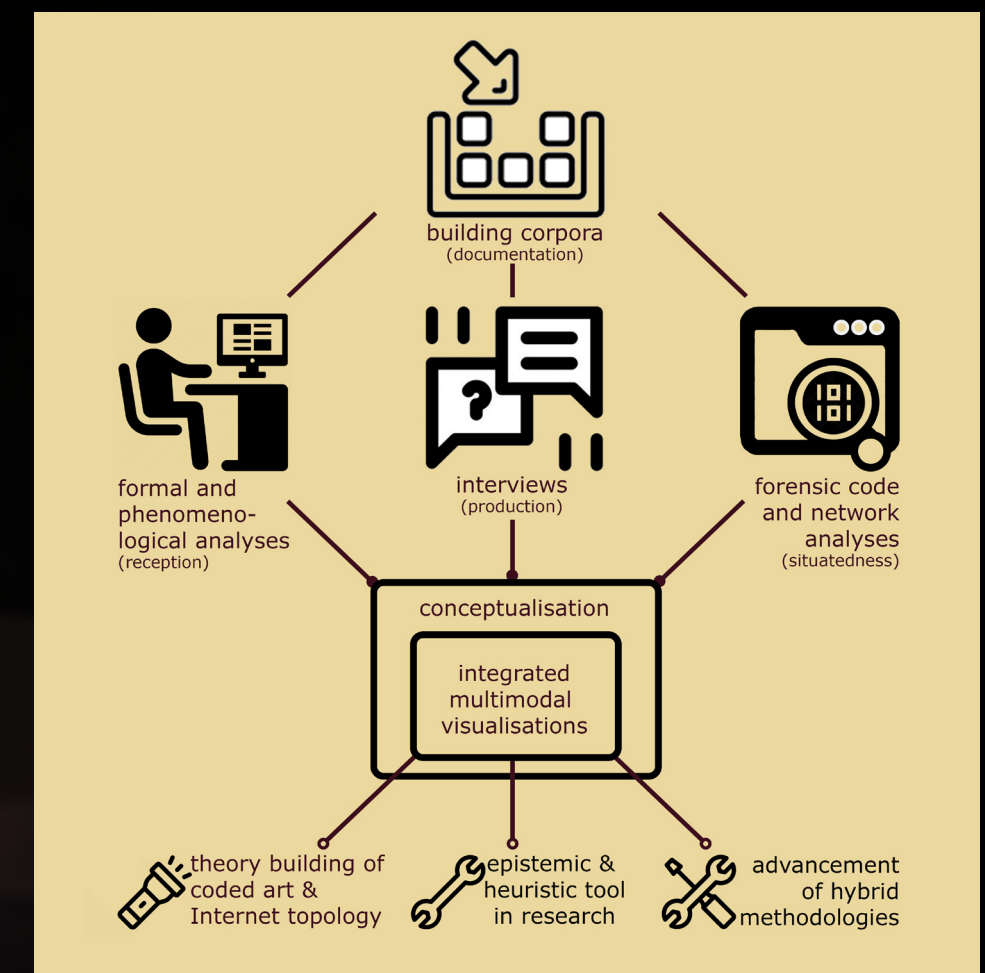


Figure 3: A variety of interdisciplinary methods contributing to prototyping conceptions of visualisations.

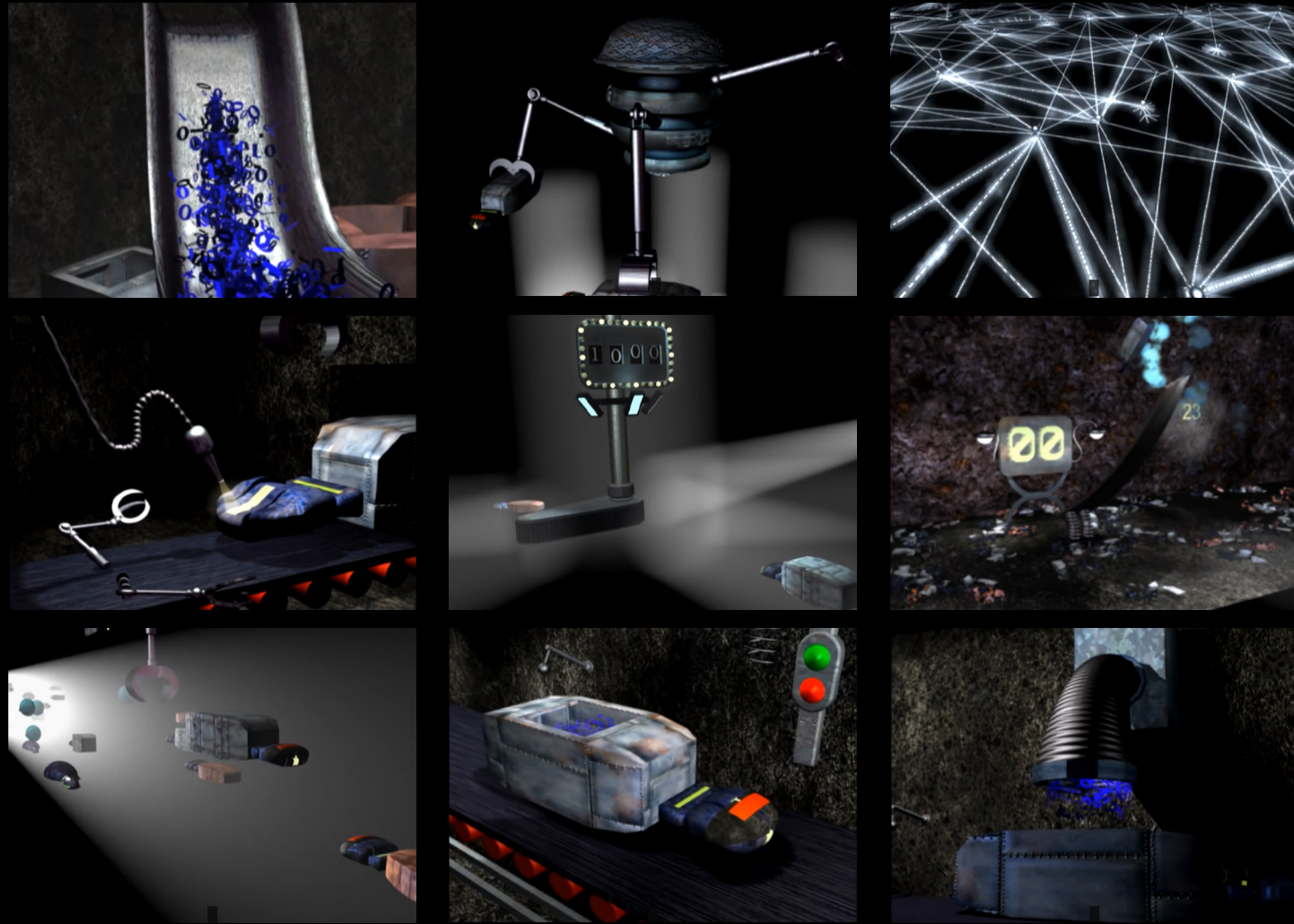


Figure 4: Gunilla Elam, Tomas Stephanson, Niklas Hanberger: *Warriors of the Net*, 1999. Animation, 12 min. Stills. Courtesy of the creators, see www.warriorsofthenet.net

Challenges of the digital margins

Even after a millennium, scholars are able to direct their attention to the miniatures or graffiti, previously dismissed, in the margins of medieval manuscripts or walls (see ERC AdvGrant Graff-IT by Carlo Tedeschi). Fortunately, some of these illustrations and inscriptions are still there in the surviving ancient books and buildings. Unfortunately, the same does not hold for the digital realm, as the half-life of the carrier-material-assemblage is massively reduced. Artistic activities in the (seeming) digital margins may simply be lost without any retrievable or representative trace if not investigated as soon as possible.

As soon as the internet became accessible, artists started to creatively exploit the specifics of what they called

'cyberspace'. However, this complex of subnets, protocols and platforms proves to be a rather fragile ecosystem because artworks attached to it may be disrupted by every software update or policy change. Moreover, art historians are just beginning to appreciate seemingly remote facets such as the source code or software performance as additional sites of valuable design decisions besides the artworks' obvious output. Furthermore, for most institutions and academia, software-based art can be easily imperceptible as a cultural practice. This results in a threefold challenge because: (a) many artworks have a short life span if not constantly maintained; (b) they often remain unrecognised; and (c) if retrieved on time, they are often discussed in a narrow manner. In order to uncover these artworks and their much-neglected aspects, our interdisciplinary team will complement art historical methods with

approaches from media, game and code studies, software forensics, visual design and art.

Significance of the hidden

What are the 'digital margins'? In general terms, in this context and by this expression, we mean sites operating beyond established cultural frameworks (such as museums, collections or archives that have a mandate to conserve cultural heritage). In more specific terms, this question must be addressed in various ways, depending on how 'being on the fringe' is conceived. When a piece is decentred from mainstream attention or resides in a remote position in the 'third row', this should not be confused with it being generally insignificant. Zooming in on the digital margins is valuable as these are the places where diversity and alternative attitudes flourish.

Ways of hiding

Hiding or being withdrawn may take place in many different ways: it can be a deliberate option, but it can also be due to contingencies such as the expiration of technical support, the institutional attention economy or social dynamics discouraging certain initiatives. Our multi-levelled conceptual framework reflects this diversity and includes nine relevant and distinct categories induced so far:

- unrecognised – hidden in plain sight
- exclusive – hidden in the code
- undercover – hidden in the file
- barred – hidden by security measures
- broken – hidden by dysfunctionality
- gated – hidden by subscription
- forgotten – hidden in the historical backyard
- retreated – hidden by intention
- anthropodecentric – hidden in scale ranges.

This preliminary list of nine types of hiddenness points to aspects that render born-digital art precarious and thus serves as a structured guideline for retrieving them. Each type poses individual challenges. For each of the artworks, several of these facets may apply in combination.

For instance, Saskia Boddeke's interactive environment *The Inevitability of Fate* (Figure 5) exists since 2012 in the virtual online platform Second Life (SL). With its ten years, it counts towards the time-honoured pieces. It can be visited if someone is willing to install the SL viewer in order to log in to where the artwork resides. For this, the user needs a connection with a certain bandwidth and the willingness and time to go through a training session in order to navigate this world with an avatar. Thereafter, previous knowledge in the form of either specific search terms or SL's equivalent of an URL address is needed. A user will hardly ever just come past by simply strolling around. Even if this cascade of hurdles may seem low-key, it is in place and effective to some degree. Additionally, only those who visit the artwork more than once notice that silent changes have happened to the work. With it evolving, former states are suddenly out of reach.

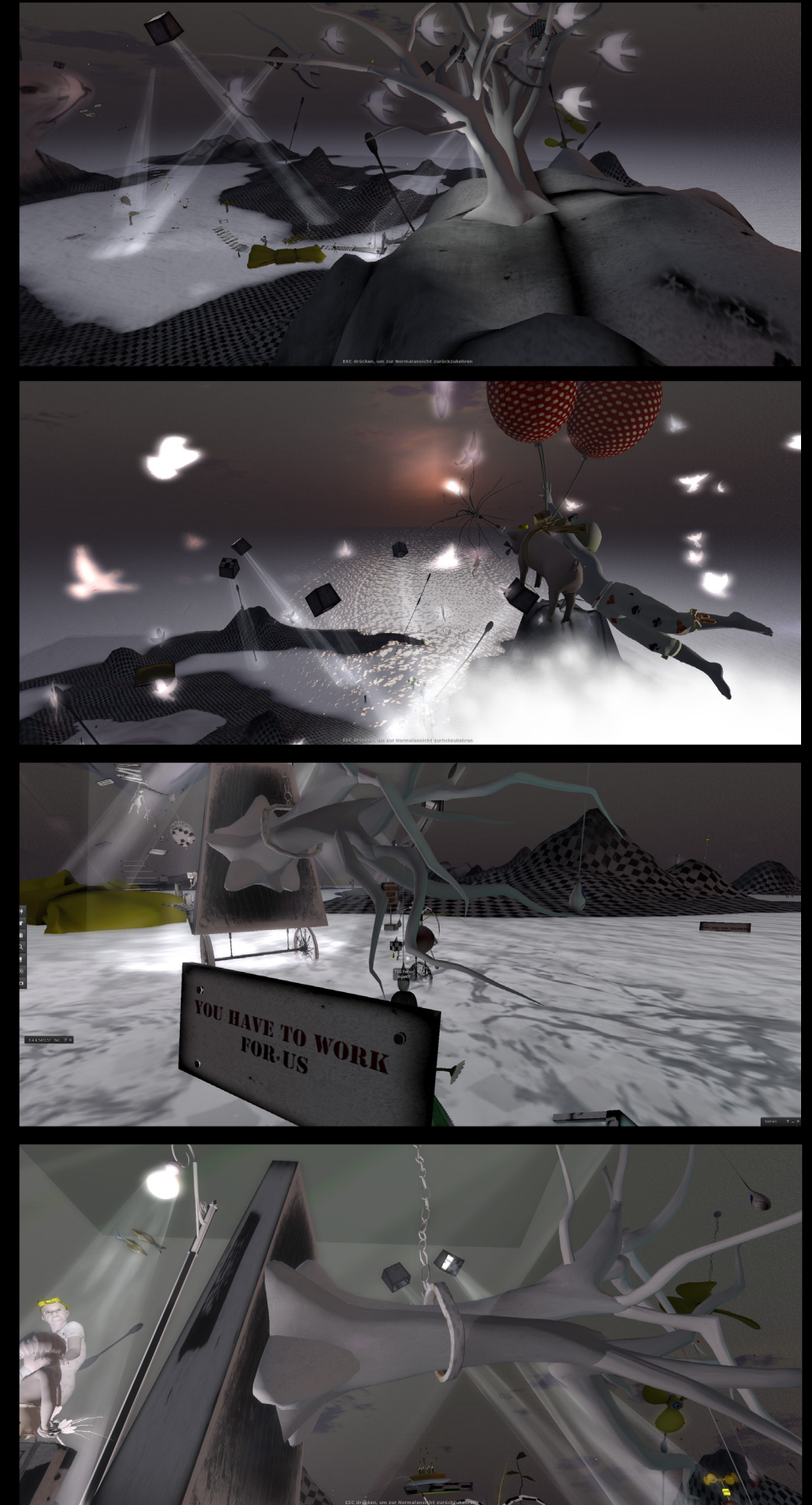


Figure 5: Saskia Boddeke: *The Inevitability of Fate*, 2012ff. Digital environment in Second Life, stills, 2020. Courtesy of the artist.

Project goals

The project pursues several ambitious goals. First and most importantly, COSE seeks to pass down a broader legacy of our contemporary cultural production to coming generations than the media art archives have entered to date and to enrich the corresponding base of documentation and critical discussion. The information on the retrieved artworks will be saved in a digital archive we develop. To this end, we collaborate with leading cultural institutions such as ZKM | Center for New Media in Karlsruhe for sustained accessibility to scholars and the interested public.

The artistic pieces under analysis are all hidden, concealed or somehow withdrawn due to the networked situation into which they were inserted. Shedding light on this black box will enable us to gain a fuller appreciation of these artworks and empower scholars in the humanities as they begin to confront

programmed works, providing analytical instruments and a general understanding of our media-technological condition. Thus, we expect to contribute to the portfolio of methods in the (digital) humanities for born-digital works.

As the artistic interventions we are looking for operate in non-standard locations, they implicitly highlight the circumstances where artists saw opportunities to critically exploit the specifics of the net. COSE will offer a new view of the internet through the lens of these artworks that reclaim the right to productively diversify internet access and usage.

PROJECT SUMMARY

The ERC CogGrant COSE project focuses on internet-based art that is not accessible in a straightforward manner and thus easily overlooked or lost. We develop new hybrid methods to retrieve and analyse online art and its embeddedness in socio-technological environments. With COSE's MediaWiki archive, we hope to kickstart a future research environment for scholars.

PROJECT PARTNERS

COSE is based in Karlsruhe and thus enjoys the vicinity of its most prominent cooperation partner, ZKM | Center for Art and Media, a seminal cultural institution for new media art. So far, cooperation partners include scholars from Europe and the US and come from the fields of software visualisation, digital art conservation and internet studies.

PROJECT LEAD PROFILE

Inge Hinterwaldner received her PhD in art history from the University of Basel with a thesis on computer simulations. Since 2018 she has been a professor of art history at KIT. Starting from 1998, she has been working on net art and many more genres of digital imagery. She is interested in programmed art and the crossover of art, technology and science.

PROJECT CONTACTS

Prof. Dr Inge Hinterwaldner
Karlsruhe Institute of Technology
Institute History of Art and Architecture
Englerstr. 7, D-76131 Karlsruhe

✉ Inge.Hinterwaldner@kit.edu
🌐 <https://kg.ikb.kit.edu/hinterwaldner/3068.php>

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