

Experience Science Festival
31.10. – 01.11.2014, Berlin

STATE

OF TIME

Festival Guide

Cars crash in slow
motion; week-long
vacations slip away
in a flash.

Our heart is broken,
the next days feel like
fifteen weeks, and
suddenly we wonder:

What, if anything, does
time even measure?

One look at our ageing bodies
and time can feel very concrete.
But while we go about our days
perceiving, measuring, and planning
our experience in neat, linear incre-
ments, generations of scientists and
artist have done their best to burst
our bubble:

What exactly constitutes time? Does
its passage depend on events taking
place within it? How is it that experi-
ence of time varies by culture and
age? Would time pass if no conscious
entity would be present to perceive
it? Why does time seem to flow in one
unilateral and irreversible direction?
And why should we even care?

STATE OF TIME combines science and
art to explore these and other mind-
bending questions by establishing an
international platform and collabora-
tive program that is both cerebral and
tangible. Featuring talks, workshops,
film screenings, art installations,
performances, and much more,
STATE encourages an open dialogue
between artists, scientists, and the
public to examine the interdisciplinary
cross-pollination of science and art.

Editorial

Dear Visitor,

Welcome to the STATE Experience Science Festival – Berlin's new festival dedicated to science and art.

Science has a bad rap. Tinged with traumatic childhood memories of endless science classes, the topic often doesn't exactly charm the masses. Real-life science, however, is a subject fueled both by intense passion and an indestructible curiosity to observe, explore, and discover a world much larger than our limited point of view. The matter then is not *what* scientists have been trying to convey, but *how* they often go about it – which is exactly where STATE Festival wants to make its mark.

Art is an overtly emotional subject – approachable, flamboyant, and wild at heart. Recognizing the close kinship between these two seemingly disparate disciplines, STATE Festival utilizes the flexible, creative expression of art, music, and movement as a vehicle to explore and communicate scientific discovery and thought. Every year, the festival will take on one specific field of scientific inquiry, juxtaposing and interweaving it with a wide variety of artistic expressions and approaches. While letting one discipline engage with the other, we aim to create a holistic, mutually insightful way of thinking that is at once informative, inspiring, and enjoyable.

This year's festival topic is "Time". Both an intellectual and deeply personal concept, it serves as the perfect breeding ground to join art and science in creating a new perspective on an aspect of our lives we often take for granted.

I hope you enjoy the festival and get inspired!

With kind regards,

Christian Rauch
Director

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- ▶ www.statefestival.org

STATE Forum

LOCATION: STATE 2

Art and science—worlds apart or interwoven disciplines? STATE aims to explore the outdated notion that art and science are mutually exclusive. What happens when the two meet? How can these disciplines benefit from one another, and what are the challenges in such interdisciplinary work? Who is behind the initiatives that cross the boundaries of art and science, and what are their interests?

STATE Forum offers a platform for critical dialogue and discussion. A selection of international initiatives, artists, scientists, and professionals working in this field will explore the aims, challenges, and motivations in toeing the line between art and science.

PANEL I

When artists and scientists meet – Artistic research, approaches and endeavors in the scientific world

PANELISTS: JENNY MICHEL, BARBARA STRACKE, ALISTAIR MCCLYMONT, LUCA

POZZI, DANIELE ORITI | MODERATION: DANIELA SILVESTRIN (FESTIVAL TEAM)

TIME: FRIDAY 31.10.2014, 11:00 – 12:45 | LOCATION: STATE 2

This panel will examine the similarities, differences, and intersections of art and scientific research. Closely related throughout history, the two disciplines were separated only a few centuries ago. To this day, however, questions about life, the universe, nature, and our ability to manipulate and shape our environment are not limited to one discipline. These questions are as scientific as they are cultural and philosophical. During this panel discussion, artists and scientists will talk about their experience collaborating on various interdisciplinary projects.

Visual artist Jenny Michel studied graphic arts and fine arts at Kunsthochschule Kassel, where she graduated in 2005. Using a wide range of media, she creates installations with a theoretical/philosophical background, while her approach is often marked by scientific methodology.

Dr. Barbara Stracke studied astro- and geophysics in Heidelberg, Cologne, and Berlin. In her scientific work she focuses on extrasolar planets with a primary interest in their habitability. She works at the Institute of Planetary Research at the German Aerospace Center (DLR).

Alistair McClymont received his MA in sculpture from the Royal College of Art in 2005. His demonstrative and experimental works have been exhibited at the Art House Foundation London, Wyer Gallery London, and La Triennale de Milano, amongst others, and are part of permanent collections at Gibberd Garden and Credit Agricole.

Luca Pozzi, Milan-based visual artist and cultural mediator, has a degree in painting from the Academy of Milan. His work, in collaboration with scientists, explores quantum gravity, teleportation, time travel, cosmology, and biodiversity, resulting in a series of hybrid installations: magnetized sculptures, levitating objects, light drawings, and photographs.

Dr. Daniele Oriti is an Italian senior researcher and group leader at the Max Planck Institute for Gravitational Physics (Albert Einstein Institute) in Potsdam. His research focuses on quantum gravity and the yet-to-be-found theory of space and time, while studying their impact on cosmology by combining theories from general relativity and quantum mechanics.

KEYNOTE

Creative Collisions between Science and Art: The Science Gallery Story

SPEAKER: MICHAEL JOHN GORMAN

MODERATION: REGINE RAPP

TIME: FRIDAY 31.10.2014, 13:45 – 14:30

LOCATION: STATE 2

During his keynote lecture, founding director Michael John Gorman will present the work and mission of his initiative Science Gallery at Trinity College Dublin, a cultural space dedicated to creative collisions between science and art. He will give an overview of projects and shows presented at the gallery, and grant insight into the potential and challenges of working at this intersection. During his keynote, he will build a link between issues raised in previous and following panel discussions.

Dr. Michael John Gorman is an adjunct professor of creative technologies at Trinity College Dublin and the founding director of Science Gallery International, an initiative that develops a global network to inspire young adults to engage with science, technology, and the arts.

Regine Rapp is an art historian and curator, and co-founder of Art Laboratory Berlin. Her specific fields of research are 20th and 21st century art, including installation art, image, text theory, and the artist book. She is a member of the International Association of Word and Image Studies (IAWIS) and Synapse (Haus der Kulturen der Welt).

PANEL 2

Where Art and Science meet – On creating a Third Culture

PANELISTS: CARSTEN HUCHO, SIBYLLE ANDERL, CHRISTIAN DE LUTZ,

JOANNA HOFFMANN, ARIANE KOEK

MODERATION: TERESA DILLON

TIME: FRIDAY 31.10.2014, 14:45 – 16:45

LOCATION: STATE 2

In 1959, C.P. Snow wrote his famous essay *The Two Cultures* in which he advocated for creating a space where the two cultures – art and science – could meet and start producing creative chances. The essay was one of the main inspirations for Bell Labs' Billy Klüver to foster close collaborations between electrical engineers and artists. The result was some of the most inspiring works and collaborations of avant-garde artists who used electronics in the late 60s. The use of technology in and for the production of artworks is quite common now, but what about the natural sciences? What institutions and initiatives

currently support artists who work in microbiology labs, explore physical laws, or examine the behavior of electromagnetic waves? Why is this research important, scientifically and artistically? This panel joins professionals working at the intersection of art and science to answer questions about the importance and challenge of creating such a “Third Culture”.

Dr. Carsten Hucho holds a PhD in Physics. He is head of the Technology and Transfer department and scientific administrative coordinator at Paul-Drude-Institut. He publishes on science-valuation, knowledge transfer, and science interfacing.

Dr. Sibylle Anderl earned a dual-degree in physics and philosophy from TU Berlin, after which she earned her PhD in astrophysics and astronomy at the Universität Bonn. Since 2013, she has been working as a postdoctoral researcher at the Institut de Planétologie et d'Astrophysique de Grenoble on the topics of star formation and astrochemistry.

Christian de Lutz is a visual artist and curator from New York. As a co-founder of Art Laboratory Berlin, he has curated over 30 exhibitions and developed a number of series, including Time and Technology and Synaesthesia. His curatorial work concentrates on the interface of art, science, and technology in the 21st century.

Prof. Dr. hab. Joanna Hoffmann-Dietrich is a lecturer at the University of Arts in Poznan, Poland, as well as head of the studio for Transdisciplinary Projects & Research and chair of the Art & Science Node in Berlin. She has participated in international symposia and art residencies, and was awarded several prizes for her work.

Ariane Koek (UK) is an award-winning producer, Clore Fellow, and the first cultural specialist appointed by CERN – the world’s largest particle physics laboratory in Geneva, Switzerland. She has been leading an international arts team at the laboratory since Spring 2010, which created and initiated the laboratory’s first arts policy, Great Arts for Great Science. She also created, fundraises for, directs, and curates the Arts@CERN program.

Dr. Teresa Dillon is a self-taught artist and curator, originally trained as a social and educational psychologist. From 2012 to 2013, she was curator and course coordinator at the Science Gallery, Dublin. She holds a PhD in psychology from The Open University, UK, and is currently a Humboldt Fellow at UdK and TU, Berlin.

STATE Talks

LOCATION: STATE 2

Let's give it up for the heroes at the front-line. The front-line of science and thought, that is. In a series of informal, intimate talks, leading researchers and expert thinkers from the fields of physics, psychology, philosophy, and beyond present their cutting-edge work, mind-bending ideas, and fascinating stories on the concept of "time" in all its variants.

MARTHA MERROW

The Daily Biological Clock: How rhythms shape our lives

TIME: FRIDAY 31.10.2014

18:00 - 18:45

LOCATION: STATE 2

As the earth turns on its axis, cycling through night and day, our experienced environment changes. Luckily, evolution has equipped us with a circadian clock that enables us to adapt and regulate our behavior throughout the day – from when we sleep and wake up to how we perform and feel. But what controls this clock? And why does it sometimes feel like we're all a little out of sync?



Professor Martha Merrow (US) is a chronobiologist who studies how light and temperature influence the circadian systems of simple organisms. She has worked in the

U.S. and the Netherlands, and now chairs the department of Medical Psychology at the LMU Medical School in Germany.

FREDRIKE KALTHEUNER

Manufacturing now

TIME: FRIDAY 31.10.2014

19:15 - 20:00

LOCATION: STATE 2

"Funny cat video ... holiday snap ...
Gaza ... pic of *awesome* cappuccino

... dead children in Gaza photo". We increasingly experience current events through the timelines of networked publics. If the age of mass media was about manufacturing consent, the age of social media is about manufacturing "now." We need to do a better job at understanding these new mechanisms that shape our knowledge of the world in time.



Frederike Kaltheuner is a graduate of the Oxford Internet Institute, and is an aspiring internet researcher, writer, and data analyst.

KILU VON PRINCE

A Melanesian perspective on time and reality

TIME: SATURDAY 01.11.2014

12:00 - 12.45

LOCATION: STATE 2

More than 100 different languages are spoken on the islands of Vanuatu, many of which have never been recorded or described. Whilst most European languages use different verb forms to anchor statements in time – "I was, I am, I will be" – the Oceanic languages of Vanuatu pay more heed to the reality of a statement than its temporality – does something actually happen or is it only a possibility? These differences raise fundamental questions: How are

time and reality conceptually related? What can we learn from these linguistic structures about the way human beings process notions of time?



Dr. Kilu von Prince is a linguist, currently working at the Humboldt-Universität zu Berlin. She works on the fascinating systems of temporal and modal markers of the Oceanic languages

of Vanuatu, with a special focus on the differences and similarities of how natural languages encode temporal notions.

MARKUS PÖSSEL

About time: From Einstein's simplest idea to the ends of spacetime

TIME: SATURDAY 01.11.2014

13:30 - 14:15

LOCATION: STATE 2

About a 100 years ago, Einstein's theories of relativity revolutionized our way of thinking. From a simple question – How do you compare two clocks in different locations? – Einstein developed a completely new view of space and time. Time, once thought to be immutable and linear, turns out to be changeable. It can be slowed down, or even come to an apparent stop, at the horizon of a black hole. This talk reviews the basics of relativistic time, exploring both what physicists do and do not know.



Dr. Markus Pössel studied astrophysics and relativity at the Albert Einstein Institute in Potsdam. After working for the 2008 World Science Festival in New York, he became mana-

ging scientist of the Centre for Astronomy Education and Outreach "Haus der Astronomie" and head of outreach at the Max Planck Institute for Astronomy, Heidelberg.

JULIAN BARBOUR

Time's Arrow and the Big Bang

TIME: SATURDAY 01.11.2014

15:00 - 15:45

LOCATION: STATE 2

Time marches on. But we're not exactly sure why. Under the quantum laws that govern the subatomic world, time could flow in either direction. The famous second law of thermodynamics – i.e. over time, entropy (disorder) increases – argues for a direction of flow, but this doesn't hold up against our observations of a highly ordered universe. Julian Barbour will discuss these problems and talk about his latest work on gravity and the arrow of time.



Dr. Julian Barbour is a British theoretical physicist and visiting professor at the University of Oxford, and one of the leading international thinkers on the topic of quantum

gravity. His 1999 book *The End of Time* advanced the radical notion of timeless physics: Time is an emergent property of the universe.

MICHAŁ KLINCIEWICZ Thinking about and in time

TIME: SATURDAY 01.11.2014

16:30 - 17:15

LOCATION: STATE 2

A whistlestop tour of the contemporary philosophy of time, from metaphysics and the philosophy of mind to psychology and neuroscience. What if the past, present, and future of the universe exist simultaneously? Or perhaps the present is all there is? How does this "world time" relate to our conscious experience of time?



Dr. Michał Klincewicz is an American cognitive scientist and philosopher of mind. He is currently a post-doctoral researcher at the Berlin School of Mind and Brain, Humboldt-

Universität zu Berlin, and is currently working on aspects of mental time, including time perception and memory, as well as the experience of duration and change.

LUKE JONES

Alterations in the Perception of Time

TIME: SATURDAY 01.11.2014

18.00 - 18.45

LOCATION: STATE 2

Our childhood summers seemed to stretch on forever but now slip by so fast. Heart-stopping moments unravel as if in slow motion, but we barely even noticed this morning's commute to work. How do our brains measure the passage of time? What makes it speed up or slow down? And what does subjective "brain-time" influence our experience?



Dr. Luke Jones is a researcher and lecturer at the School of Psychological Sciences at the University of Manchester. He has published extensively on the human perception

of time, and his work has been featured in *New Scientist magazine*.

STATE Exhibition

LOCATIONS: STATE 1, STATE 3, STATE 4,

MARKETPLACE, COURTYARD

Scientists and artists are in the business of uncertainty, always at the heel of turning unknowns into knowns. Illuminating science through art, and vice versa, then, is not only logical it is imperative for a holistic grasp on either subject. Despite, or perhaps because of its elusive qualities, the theme of time is rich for reflecting the delicate intersection of art and science. In that vein, the ongoing STATE Exhibition will provide a highly immersive and interactive visual experience, combining an array of mediums, including projections, interactive objects, and installations, centered around time's literal, conceptual, or metaphorical interpretations.

ALISTAIR MCCLYMONT

Unix Time

IOS APPLICATION ON SCREEN

LOCATION: MARKETPLACE



© Alistair McClymont

Unix Time shows a 24-hour time lapse of the sky, wherein one real-time minute equals one second in the video. The digit overlaying the projection increases per second. It represents current unix time – a measure of time, often used in operating systems, that counts the seconds lapsed since midnight January 1, 1970. The unix time system can be seen as the birth time of modern computing – a parallel epoch to the Gregorian measurement of time.

ALISTAIR MCCLYMONT

Leap Seconds

PHOTO PRINTS

LOCATION: COURTYARD

The series of photographs represents the 25 “leap seconds” that have so far been added to our current time count. “Leap seconds” are occasionally added to our time to adjust for the discrepancy between earth and atomic time, caused by earth’s gradual loss of rotational speed.

Alistair McClymont received his MA in sculpture from the Royal College of Art in 2005. His demonstrative and experimental works have been exhibited at the Art House Foundation London, Wyer Gallery London, and La Triennale de Milano, amongst others, and are part of permanent collections at Gibberd Garden and Credit Agricole.

VALERIAN BLOS

Farewell, Sweet Memories

INTERACTIVE OBJECT

LOCATION: STATE I

Farewell, Sweet Memories raises the question of how memories retain value in a time when photography, audio, and video reign. The tape under the glass dome records collective



© Valerian Blos

memories. Once the installation loses its audience, the magnet pendulum begins to swing, thus erasing all data for eternity. Only continuous interaction can prevent these memories from vanishing.

Valerian Blos is a visual communications student at the University of Arts in Berlin. Since 2012, he has been enrolled in professor Joachim Sauter’s Advanced New Media Class, in which he has been exploring near and distant future through interactive and speculative design approaches.

SCHNELLEBUNTEBILDER BLINK OF AN EYE

INTERACTIVE INSTALLATION

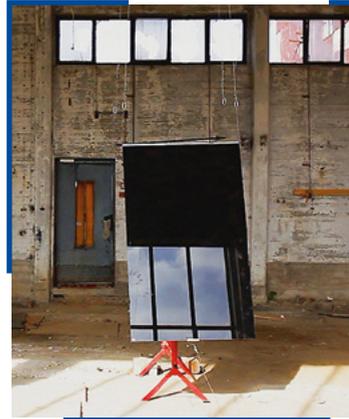
LOCATION: STATE I

This interactive, audio-visual installation creates three-dimensional spaces with light and haze. Tracking cameras interlink user and light by creating an ever-changing landscape of illuminated silhouettes, outlines, fleeting cones of light, and phantom walls. Visitors are invited to experience the friction between present time and time-past, and the tension between empty and occupied spaces.



© schnellebunterbilder

schnellebunterbilder are a design and animation studio based in Berlin. The trio collaborates with curators, exhibition designers, and creative artists to implement their works, which have included projects at Grassi Museum, DHM Dresden, Berlin Partner, McCann Erickson, and NODE Forum.



© Armin Keplinger

ARMIN KEPLINGER



PROJECTION /

KINETIC SCULPTURE

LOCATION: STATE 4

/// is Newton's third law of motion visualized. The law of action and reaction stipulates that two interacting bodies exchange equal force upon one another, ultimately causing mutual reconfiguration or destruction. By expanding the moment of impact, the video installation investigates the phenomena of collision as an extreme event in time's malleability. Utilizing this transformative process, along with the interrelation of time and force to the point of standstill, the piece evokes physical sensations.

Armin Keplinger is a multimedia artist with a focus on digital image creation. His digital works, sculptures, and installations have been exhibited at Winzavod Moscow Contemporary Art Center during the Moscow Young Artists Biennale, Opera National de Paris, Saatchi Gallery, and Aando Fine Art Berlin, amongst others.

THE CONSTITUTE EYEsect

INTERACTIVE OBJECT

LOCATION: STATE 3

EYEsect is a wearable, interactive installation. Examining the paradigms of perception and exploring spiritual utopias, science fiction, and bionic experiments, the installation aims to transcend the omnipresent human-

centrist perspective. Two hand-held cameras capture surrounding images and stream them separately to each individual eye, causing a new visual-spatial experience, proprioceptive orientation, and a sense of disembodiment.

The Constitute is a Berlin-based design and research studio, founded in 2012. The collective specializes in design fiction, experimental interactions, and disturbing experiences.



© The Constitute

NENAD POPOV
Pulse, Flow

INSTALLATION

LOCATION: MICROCOSM

The audio-visual installation *Pulse, Flow* oscillates between cinema and painting, and creates a space to slow down and contemplate. It consists of a dark, empty space partially enveloped in a projection of a petri dish containing *Physarum Polycephalum*, a curiously smart type of slime mold. The back area contains the specimen's life support system, as well as a computer system tracking



© Nenad Popov

the real-time fluctuations within the gigantic cell itself. These changes are synthesized into a soothing soundscape projected into the installation.

Nenad Popov is a media anarchist with a focus on live cinema pieces, sound installations, film installations, weird sound making contraptions, and occasional parasitism on public cultural funds. He has collaborated with artists such as Daan Brinkmann, Electronic Opera, Erfan Abdi, Klara Ravat, Lillevan, and his works have been exhibited at Sonic Acts, Dis-Patch, Today's Art, E-Pulse, Share, and Ars Electronica.

PHILIPP RAHLENBECK
AND HANDS ON SOUND
Tides

OUTDOOR PROJECTION

AND SOUND INSTALLATION

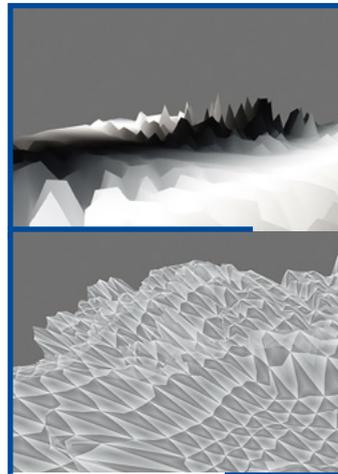
LOCATION: ENTRANCE

TIME: FRIDAY 31.10., 17:00 - END

SATURDAY 01.11.2014, 17:00 - END

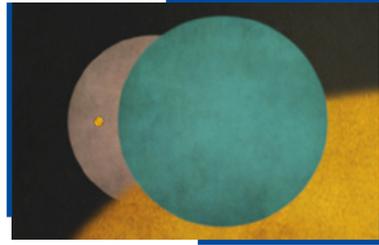
The façade projection *Tides* explores nature's rhythm, including our own biological clocks. What triggers our activity or inactivity? When do we feel in-sync with our environment, and when do we feel rushed and exhausted? Hyper-connected, it's become increasingly difficult to escape the ticking master clock to follow our own innate ebbs and flows.

Philipp Rahlenbeck is an esoteric experience architect with a background in interaction design, software development, and programming. He is founder of Multitouch Berlin, a studio for multi-user experiences, and co-founder of Letters Are My Friends, a typography store and showroom.



© Philipp Rahlenbeck and hands on sound

hands on sound is a Berlin-based acoustic scenography studio. Founded by a sound designer and an architect, the team develops progressive sound installations, interactive exhibits, sound concepts, and acoustic guidance systems for museums, galleries, and public space.



© Pfadfinderei

PFADFINDEREI

A Question of Time

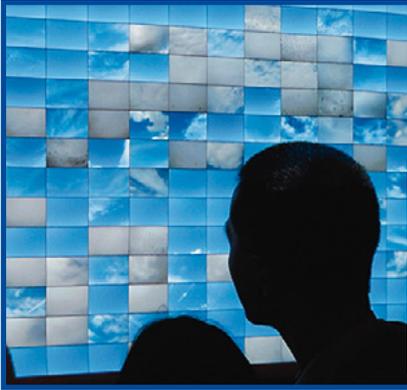
FULL SCALE VISUAL INSTALLATION /

STAGE DESIGN

LOCATION: MARKETPLACE

The installation *A Question of Time* is a real-time visualization of STATE OF TIME's festival program. Information about STATE shows, talks, and workshops are synthesized into a large-scale projection that references the mechanism of "the world's oldest computer" – the astronomical clock Antikythera, built 140 B.C., which served as a calendar between Olympic games by predicting star constellations and solar and lunar eclipses.

Pfadfinderei is a Berlin-based art direction and design studio founded in the late 90s. As one of the city's leading specialists for visualized music, the collective creates audiovisual environments for installations, contemporary dance shows, classical concerts, and internationally renowned music acts including Moderat, Paul Kalkbrenner, and Max Richter.



© Ken Murphy

KEN MURPHY

A History of the Sky

TIME-LAPSE PROJECTION

LOCATION: COURTYARD

"A History of the Sky" is a time-lapsed visualization of light and weather, recorded in 10-second increments over the course of a year. Each cell in the grid depicts a single day, from sunrise to sunset, which unfold in parallel to create a cascading pattern of light and dark by varying lengths of day.

Ken Murphy is an artists, tinkerer, programmer, and musician from San Francisco with a focus on time-lapse installations and interactive exhibits. He is the author of the interactive children's book *Blinkybugs!*. His written works have been published in *Make*, *Popular Science*, and *Popular Mechanics*.

STATE Films

LOCATION: MICROGOSM

Where would film be without time – the fourth dimension that grants movement to otherwise static pictures? Join us to explore the science of time through film. Echoing the program of the accompanying STATE Experience Science Film Festival in partnership with Imagine Science Films (NY), we present Microcinema: An installation that offers a closer look at time as it unfolds in its most microscopic layers.

Microcinema: Installation loops

LOCATION: MICROCOSM

As we look closer at normal objects we find tiny patterns, chaotic whirls of dust, and teeming micro-ecosystems. Alternatively, collapsing minutes and days through time-lapse shed light on complicated systems and otherwise imperceptible changes. In both the lab and in art, macro/micro photography and time-lapse allow us to look into different, unseen realities.

Blood Moon Time Lapse #4

DAVID BRAUN & VICTOR SALAS

CZECH REPUBLIC, 2014, 1 MINS

An experimental time-lapse view of a lunar phenomenon.

Circadia

LEIGHA FOY

USA, 2014, 3 MINS

Circadia is a glimpse into the hidden rhythms of a remarkably familiar world.

Slow Life

DANIEL STOUPIN

AUSTRALIA, 2014, 4 MINS

Colorful 'slow' marine animals come to life with complex focus-stacking time-lapse techniques. Corals and sponges play crucial roles in the ocean's ecosystems, yet our understanding of their daily lives is highly limited.



Slow Life © Daniel Stoupin / ISF

Confluence

NOAH SHULMAN

USA, 2014, 6 MINS

There is always movement, even in stillness. Things around us are constantly changing in tiny ways that we don't notice, eventually building up to growth and death. Created with specialty macro lenses and microscopes, and shot in 4K resolution, the film reveals hauntingly beautiful movement at the microscopic level, and reminds viewers that everything around them is in flux, even when the surface is calm.

Cascades

CRAIG WARD & LINDEN GLEDHILL

USA, 2012, 3 MINS

The movements of a music box ballerina are reinterpreted in a groundbreaking video for British composer Ryan Teague using electromagnetic fields, sub zero temperatures, and 2.000 volts of electricity.



Frog embryo development in vitro

NIPAM PATEL & RYAN NULL

USA, 2014, 1 MINS

Developing embryos of the African clawed frog, *Xenopus laevis*. *Xenopus laevis* is widely used in biomedical research, and many important discoveries regarding the mechanisms and molecules that control animal development were made using *Xenopus*.



Frog embryo © Nipam Patel & Ryan Null / ISF



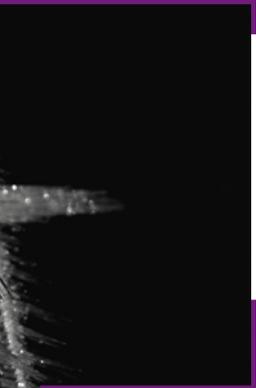
Butterfly wing © Nipam Patel & Ryan Null / ISF

Butterfly wing development in vitro

NIPAM PATEL & RYAN NULL

USA, 2014, 1 MINS

Developing butterfly wings. Shown are the developing pupal wings of two butterfly species, the Painted Lady (*Vanessa cardui*) and the Buckeye (*Junonia coenia*). They were placed in a special media that allows the wings to survive. Over the course of 70 hours (Painted Lady) and 27 hours (Buckeye) the color patterns appear in the wings.



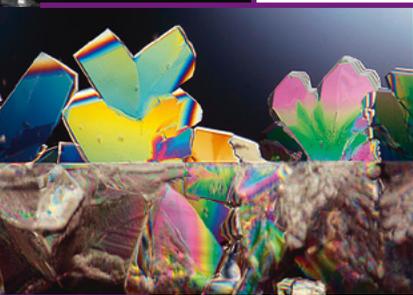
Cascades © Craig Ward & Linden Gledhill / ISF

Microscope Time-Lapse: Sugar Crystallizing Out of Solution

GARY AND JASON GREENBERG

USA, 2014, 2 MINS

Microscope time-lapse. Sugar crystallizing out of solution visualizes the process as a beautiful quantum phenomenon.



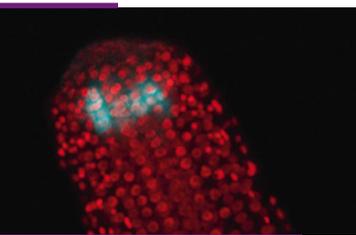
Sugar crystals © Gary and Jason Greenberg / ISF

Root Tip Regeneration in Arabidopsis

RAMIN RAHNI

USA, 2014, 1 MINS

Organ shape is re-established during regeneration within a few days. Short excerpts of this process are shown with cell membranes in cyan and nuclei in red. Cyan appearing inside cells near the tip marks the re-emergence of the previously excised stem cell niche.



Root tip timelapse © Ramin Rahni / ISF

STATE Science Interactives

LOCATION: MARKETPLACE

Calling all lab rats! STATE Interactives invites you to get studied, checked, and analyzed. Get down and dirty with real-life research and take part in (secret!) live experiments.



© John Morgan

STATE Experiment

**TIME: FRIDAY 31.10.2014,
13:00 – 20:00
SATURDAY 01.11.2014,
10:00 – 20:00
LOCATION: MARKETPLACE**

Shhh ... we hope you can keep a secret. Come by and become part of an ongoing scientific study developed in collaboration with experimental psychologist Joana Arantes.



Dr. Joana Arantes is an experimental psychologist and invited professor at the School of Psychology, Minho University, Portugal. Her group's research focuses on factors that influence time perception and decision-making.

Time Bureau

**OPENING HOURS:
FRIDAY 31.10.2014, 13:00 – 20:00
SATURDAY 01.11.2014, 10:00 – 21:30
LOCATION: 1ST FLOOR,
ENTER FROM THE MARKETPLACE**

Sit back and let our time consultants lead you through a standardized, scientifically validated test that identifies individual time characteristics to offer lifestyle optimization suggestions for a happier, healthier life. Come by and get tested!

STATE Workshops

LOCATION: STUDIO

Sometimes we need to experience it to believe it. The STATE Workshops aim to thaw down the cerebral concept of “time” to an engaging, hands-on level. Artists, scientists, and multidisciplinary experts offer immersive workshop sessions to explore “time” in creative, educational, and experiential settings.

MARTIN SONA, HENNI STEINHART
**Time Out Timeline –
See your Brain on
Mindfulness Meditation
(with Neurofeedback)**

TIME: FRIDAY 31.10.2014,

15:30 – 16:30 AND 18:00 – 19:00

LOCATION: STUDIO

EXPERIENCE WORKSHOP

LIMITED NUMBER OF PARTICIPANTS,

PRE-REGISTRATION REQUIRED

Mindfulness meditation is the practice of being aware of the present moment, of letting thoughts and feelings come and go rather than getting caught up in them. Originally an ancient Buddhist meditation technique, in recent years, mindfulness has evolved into a range of secular therapies and courses proven to combat ailments like anxiety, depression, chronic pain, and addiction. This workshop will give an overview of some of the most exciting psychology and neuroscience research on meditation's effects on the brain with a practical introduction to using consumer EEG sensors, which capture data on your meditating mind to help track your mental states of relaxation and focus.

Martin Sona is a cognitive neuroscientist working on social interaction at Maastricht University. Previous work includes brain-computer interfaces, and research on burnout and mental fatigue using various methods such as EEG, near-infrared spectroscopy, and brain imaging. He describes himself as a self-hacker and is an active member of the global Quantified Self community.

Henni Steinhart is a psychologist and researcher at Maastricht University. She studies how mindfulness-based interventions can be used to benefit people at risk of developing psychotic symptoms by using cutting edge brain imaging methods.

JOHN CONNELL

**Three Seconds In
Sound – A Sonic Medi-
tation on the Present**

TIME: SATURDAY 01.11.2014

11:00 – 12:30

LOCATION: STUDIO

EXPERIENCE WORKSHOP

LIMITED NUMBER OF PARTICIPANTS,

PRE-REGISTRATION REQUIRED

Cross-cultural studies suggest that we experience the present moment as a three-second time frame: many activities and interactions fit within this brief window of continuity. But how much information are we able to experience within this window of the "present" and this sense of "now"? What level of detail are we able to perceive? How might this influence our experience of life from moment to moment, and our sense of the passage of time? This session will explore these questions through guided meditation, using immersive sound design and mindfulness techniques with some discussion on the group's experiences.

John Connell is a sound designer, meditation teacher, and creative director of 4DSOUND, a laboratory for spatial sound and music performances in Berlin and Amsterdam. His work is primarily centered around sound and consciousness practices.

PEDRO JARDIM, ALICE
GRINDHAMMER, ALEXA CLAY

Time Confessions

INTERACTIVE

DISCUSSION WORKSHOP

TIME: SATURDAY 01.11.2014

13:00 - 14:30

LOCATION: STUDIO

Time assumptions are woven into the cultures of economic life. They animate everything from product lifecycles, waste management, and finance and tech entrepreneurship to how we organize people and communities. This panel and discussion will explore the bias of mechanized time, while exploring new possible "time regimes" inspired by meta-perspectives of deep space, as well as local, informal, and self-organized systems. Starting with our own time confessions, we will engage in a discussion on how we hack our own experiences of time and engage in shifting the time assumptions of our systems.

Alexa Clay, a former poet and philosopher, is the co-author of *The Misfit Economy* and founder of *Wisdom Hackers*, an incubator for life's burning questions.

As a business developer, Alice Audrey Grindhammer has traveled to the fringes of global markets to implement waste management processes in extreme environments. With *Wasteland Projects* she establishes interdisciplinary circular economy processes and teaches communities to self-organize and find solutions for the global waste crisis.

Pedro Jardim researches self-organization and collaboration in online and offline communities. He is interested in methodologies

of facilitation and approaches to fostering cultures of collaboration, sustainability, and a more evenly distributed society.

GÖRAN HIELSCHER,
ANDREAS MUELLER

Design Thinking Workshop – Time handling

TIME: SATURDAY 01.11.2014

15:00 - 17:00 AND 17:30 - 19:30

LOCATION: STUDIO

CREATIVE WORKSHOP

LIMITED NUMBER OF PARTICIPANTS,

PRE-REGISTRATION REQUIRED

Mobile devices and connectivity have increased, whereas our personal strategies to maintain focus struggle to keep up. In this playful design thinking workshop, we will examine, prototype, and explore solutions to the question: How do we simplify time handling?

Andreas Mueller loves to create workshops that foster innovation as well as personal and organizational change. He gained extensive knowledge in coaching and training, holds a degree in cultural studies and went to HPI School of Design Thinking. Andreas also hosts events and forms collaborative art with his improv group.

Göran Hielscher is a lover of foreign words, good food, and travel adventures. During his ten years as a freelancer, he has explored graphic design, copywriting, and consulting in communication and innovation.

CLAUDINE CHEN, BRIAN DEGGER,
MICHAEL MEINEL, GIULIA
PAPARO, RAMIN SOLEYMANI

Science Hack Day drop-in workshop: hacking time

TIME: SATURDAY 01.11.2014

15:00 – 20:00 LOCATION: STUDIO

CREATIVE WORKSHOP, DROP-IN

A growing movement of citizen scientists and science hackers are bringing science out of the ivory tower and into kitchens, garages, and hacker-spaces around the world. Stop by this workshop to learn about open science and the D.I.Y. movement, meet science hackers, and check out the latest hacks from our partner event Science Hack Day Berlin. Take part in a D.I.Y. experiment on time perception, learn about and build your own mechanical clock, and visualize the fourth dimension in re-rendered video.

Dr. Claudine Chen is interested in sharing science in intuitive ways. Her research as a data scientist has touched on various topics, from materials for solar cells and atmospheric chemistry and physics to climate policy. She currently works on the economics of climate change.

Dr. Brian Degger is an art and science practitioner with a PhD in molecular biotechnology. In collaboration with artists and technologists, he uses scientific and open source methodologies to explore diverse research areas such as bacterial cultivation and fermentation, accessible science technology, aquatic ecologies, and open source science. He is the co-founder of the Newcastle Maker Space, UK, a place for the creative use of technology.

Michael Meinel is a passionate software engineer who enjoys lending his expertise to projects from different science domains. He is fluent in many different scientific dialects as spoken by mathematicians, physicists, chemists, engineers, and he enjoys organizing cool events. He works at the German Aerospace Center (DLR) in Berlin.

Giulia Paparo is a philosopher of science, working at the intersection of philosophy and physics. She enjoys enthusing people about the philosophical meaning of science and the scientific use of philosophy.

Ramin Soleymani is a freelance software developer and media artist. He is a former computer science researcher, now firmly embedded in the open education and hacking culture of Berlin.

STATE Performance

LOCATION: MARKETPLACE

Life isn't static, so why should we be? From media performances and projections to music and dance, STATE Performance embraces movement in all its shapes and forms to build an immersive audio-visual environment that makes science and art observable, movable, and groove-able.



© Diana Wehmeier / Schall & Schnabel

JOHN KAMEEL FARAH
**Unfolding / Past Eras
to Future Worlds**

PIANO CONCERT, VISUALS
TIME: FRIDAY 31.10.2014
20:15 – 21:15
LOCATION: MARKETPLACE

A mesmerizing performance – half talk, half piano concert. From live acoustic interpretations of galaxy formations to explorations of rhythmic elements through musical history, this is a journey through time in music.

Toronto/Berlin-based pianist, composer, and improviser John Kameel Farah combines elements of baroque, electronic, Arabic, and experimental music using piano, computers, and electronics. He studied at the University of Toronto, where he twice received the Glenn Gould Composition Award, and has performed across Canada, U.S., Europe, UK, the Middle East, Latin America, and South Korea.

DIANA WEHMEIER
AND SCHALL & SCHNABEL

PD 628 – space time

TRANSFORMANCE
TIME: SATURDAY 01.11.2014
20:00 – 20:30
LOCATION: MARKETPLACE

Space-time, entropy, acceleration and deceleration, time travel, black holes, and the illusion of present, future and past – this performance combines elements from physics into one breathtaking narration.

Diana Wehmeier is an artist, painter, and transformer. She studied art at Dresden Academy of Fine Arts and theology and cultural studies at Leipzig University. She has been collaborating with Schall & Schnabel since 2013.

Schall & Schnabel Studio for Photography and Concept was founded by Pierre Horn and Eileen Huhn in 2012. They have created several exhibitions and publications for international fashion and art media.

Imprint

STATE OF TIME Experience Science Festival is organized by STATE Experience Science GmbH in collaboration with Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin, e.V.

PAUL-DRUDE-INSTITUT FÜR FESTKÖRPERELEKTRONIK

The Paul-Drude-Institut für Festkörperelektronik is a German research institute and member of the Leibniz Association within the Forschungsverbund Berlin. It performs device-inspiring research as a lively symbiosis between materials science and solid-state physics.

STATE EXPERIENCE SCIENCE

We are a young, independent team of scientists and artists who believe that science is too inspiring to stay hidden in a lab. STATE Experience Science GmbH was founded in order to actualize innovative ways of opening science to you – the public. STATE Experience Science Festival is our first initiative.

FOUNDING DIRECTOR:

DR. CHRISTIAN RAUCH

Christian is a physicist with passion for science and the things beyond. After working as a researcher and being involved in several science outreach initiatives, he founded STATE Experience Science Festival and the company behind it.

SCIENCE CURATION:

DR. LUCY PATTERSON

Lucy is a passionate science communicator, molecular biologist, and former lab rat. She is an active open science advocate, science hacker, and co-organizer of Science Hack Day Berlin. She is fascinated by the very small and extremely weird subcellular world.

ART CURATION AND PRODUCTION:

STEFANIE GREIMEL

Stefanie is a cultural project manager in Berlin with a strong interest in design, art, and technology and a fascination for visual and interactive concepts in daring and experimental formats.

ART CURATION AND PRODUCTION:

JOHANNA WALLENBORN

As a cultural manager and curator, Johanna advocates non-traditional perspectives on art. Her focus lies on process-oriented, experimental approaches that celebrate the creative use and abuse of technology. Together with her partner, Stefanie Greimel, Johanna currently runs the temporary art space LEHRTER SIEBZEHN and co-curates Pecha Kucha Berlin.

FORUM CURATION:

DANIELA SILVESTRIN

Daniela is a curator, cultural manager and researcher, working at the intersection of art, law and science. She studied Law and History of Arts and obtained a MA in Visual Arts and Curatorial Studies from the New Academy of Fine Arts in Milan.

EXPERIENCE DESIGN:

ESTHER MASEMANN

Esther is a graphic designer based in Berlin with a passion for design thinking. Her expertise lies in user experience, interaction design, creating monsters, and working with a great network.

EXHIBITION DESIGN:

ISABEL PRUGGER

Isabel is a graphic and exhibition designer based in Berlin. Working for international museums and cultural institutions, she enjoys developing design solutions in and with interdisciplinary teams. She is currently completing her MAS-studies in educating / curating / managing at the Universität für angewandte Kunst in Vienna.

COMMUNICATIONS AND MARKETING:

HENDRIK V. BEUST

With a focus on online and live communication projects, Hendrik has been working for national and international clients for over 15 years. He is involved with multiple startup and cultural projects, and spends the remainder of his time sailing and traveling.

DEVELOPMENT:

EIMEAR BRUEN

Eimear is an independent cultural producer with over 10 years experience in the field of creative management and communications. From brand communications to large scale art / music festivals, her approach is defined by multidisciplinary thinking and collaboration.

PARTNERSHIPS:

ROBERT WÖSTENFELD

Robert is a trained mathematics and physics teacher. He has worked on school projects for the Deutsche Mathematiker Vereinigung, publishing educational mathematics formats for high school children. He conducts teacher CPD courses for the Chilean Ministry of Education and trains fundraiser teams for Doctors Without Borders.

VOLUNTEER

MANAGEMENT:

PETER ROTHMEIER

Peter studied social management and is the chairman of a working council in the social sector. He advocates the interests of employees in the companies he is working for and is an active volunteer in a workers union.

PROJECT

MANAGER FILM:

VENA WARD

Vena is a film curator and musician. She has worked in the field of new media and cinema as the head curator and project manager of the New Screens department at Geneva International Film Festival and project

manager for film and video at the transmediale festival for art and digital culture.

PROJECT ASSISTANCE:

CONSTANZE WULFF

Constanze studied psychology and has worked for various different companies in diverse roles, including public relations, marketing, sales, public image, and networking events. She is an allrounder and currently founding her own business.

PRODUCTION

MANAGEMENT &

COORDINATION:

Jan Baumann, Tobias Pieper, and Andrea Abendroth
www.boparchitects.com

ART DIRECTION &

GRAPHIC DESIGN:

Martin Wunderer
www.montebelo.org

PRESS RELATIONS:

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www.muxmaeuschenwild.de

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Robert Eysoldt
www.zerooverhead.de

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Schnellebuntebilder
Diana Wehmeier with
Schall & Schnabel

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Dr. Barbara Stracke

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Dr. Claudine Chen
Alexa Clay
John Connell
Dr. Brian Degger
Alice Grindhammer
Göran Hielscher
Pedro Jardim
Michael Meinel
Andreas Mueller
Giulia Paparo
Ramin Soleymani
Martin Sona
Henni Steinhart

FILM FESTIVAL

CURATION

STATE Films is curated in conjunction with Imagine Science Films, Brooklyn, NY, a non-profit organization committed to promoting a

high-level dialogue between scientists and filmmakers.
Artistic Director & Founder:
Alexis Gambis / Director of Operations: Nona Griffin / Director of Programming: Nate Dorr

SCIENCE INTERACTIVES

STATE EXPERIMENT is a study on time perception, developed in collaboration with experimental psychologist Dr. Joana Arantes, School of Psychology, Minho University, Portugal. It consists of a series of simple computerized trials to study time perception. The exact nature of the experiment must remain undisclosed as to not bias the data that will inform the research of Dr. Arantes and may potentially contribute to a published study. The identity of all participants will remain confidential: Names will not be associated with any of the data obtained or published. Questions and enquiries about the

STATE Experiment can be addressed to experiment@statefestival.org.

TIME BUREAU consultations are based on the work of renowned US psychologist Philip G. Zimbardo [Zimbardo Time Perspective Index (short version) adapted from "Putting time in perspective: A valid, reliable individual-differences metric". Zimbardo & Boyd. Journal of Personality and Social Psychology. 1999 77:1271-1288]. However, our mediators are not professional psychologists. Time Bureau consultations are not to be interpreted as professional medical advice.

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Flora Power Mate

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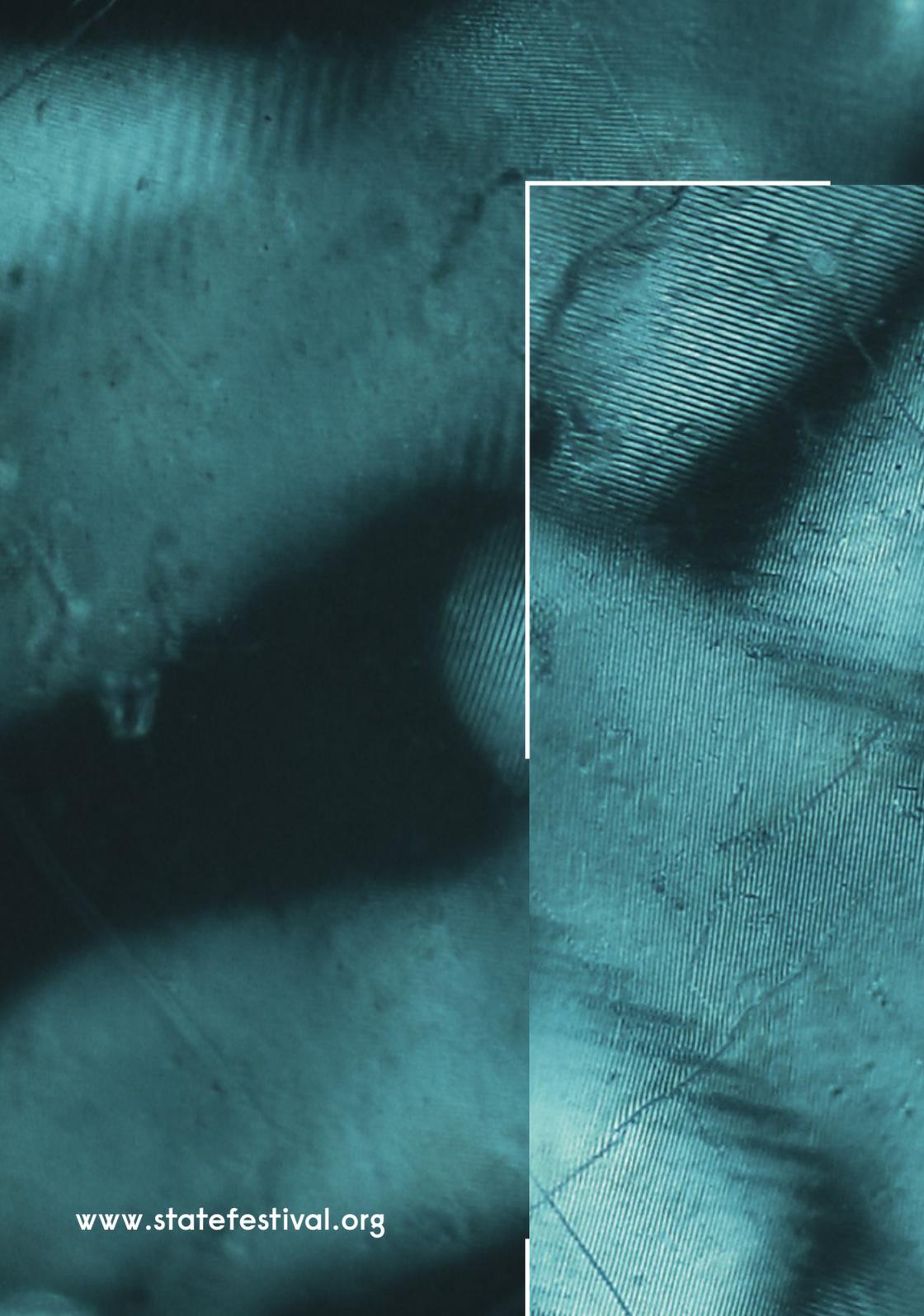
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