

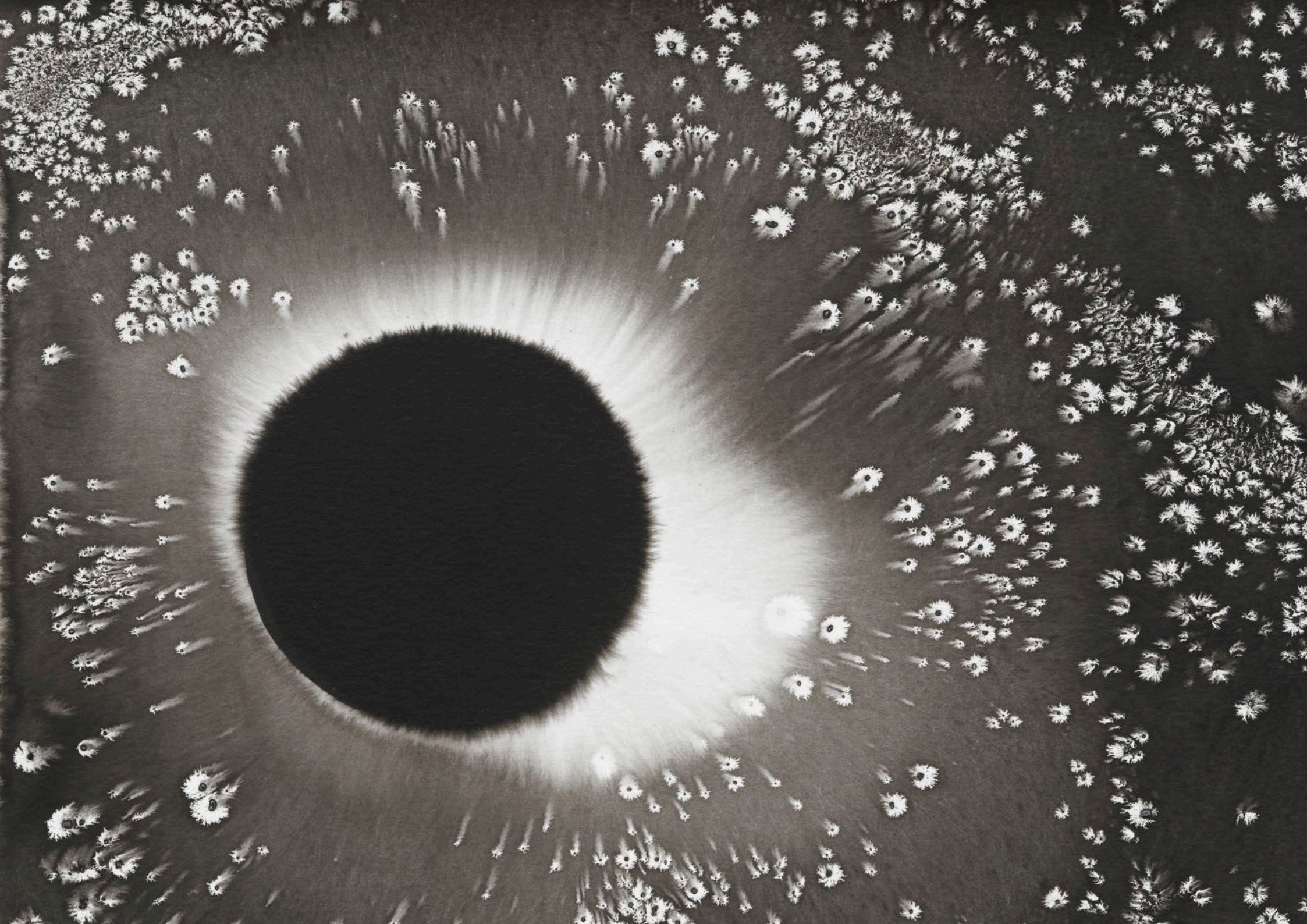
The background is a high-contrast, black and white abstract image. It features organic, cellular, or crystalline structures. In the upper left, there are lighter, more defined shapes that resemble cells or small organisms. The rest of the image is dominated by dark, textured areas with fine, granular details, suggesting a microscopic or geological view. The overall composition is dynamic and textured.

JULIA MÜNSTERMANN

ENTROPIC MATTER - PORTFOLIO 2024



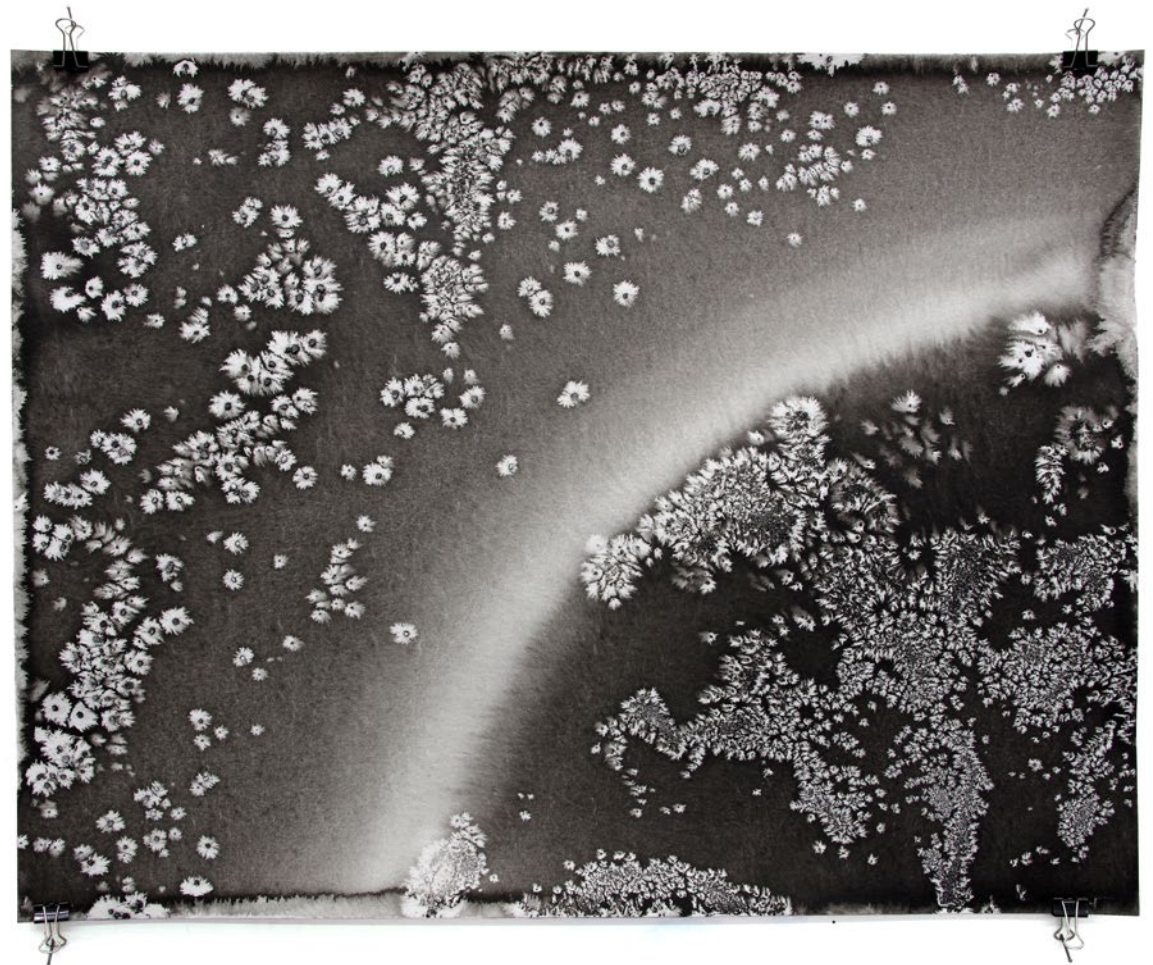
ENTROPY



ENTROPY

As a physical measure, entropy refers to the disorder that the universe is progressively maximizing. This is countered by the force of gravity, which brings forth entities such as galaxies, solar systems, and planets. In her series Entropy, Julia Münstermann employs the opposing principles of order and disorder, structure and chaos to create pictorial compositions. Recalling black-and-white images captured by powerful space telescopes, this group of process-based ink works evokes interstellar nebulae, black holes, stellar clusters, and other cosmic phenomena: views into the depths of outer space, which appears in ever-changing configurations. The artist, who is active in the expansive field of painting and is concerned with scientific research and the visualization of the intangible, conflates intention and coincidence here in an aesthetic experiment. In her cosmic pictorial spaces, liquid ink collides with salt crystals, whose solvation energy generates unpredictable galactic structures. Thus, in the pictorial space, the emergence of formations in outer space is replayed, which spring forth from the confrontation between order and chaos.

Text: Belinda Grace Gardner



ENTROPY, 2024, ink and salt on paper, 50 x 65 cm - detail





ENTROPY

A Film by Julia Münstermann



ENTROPY

short film

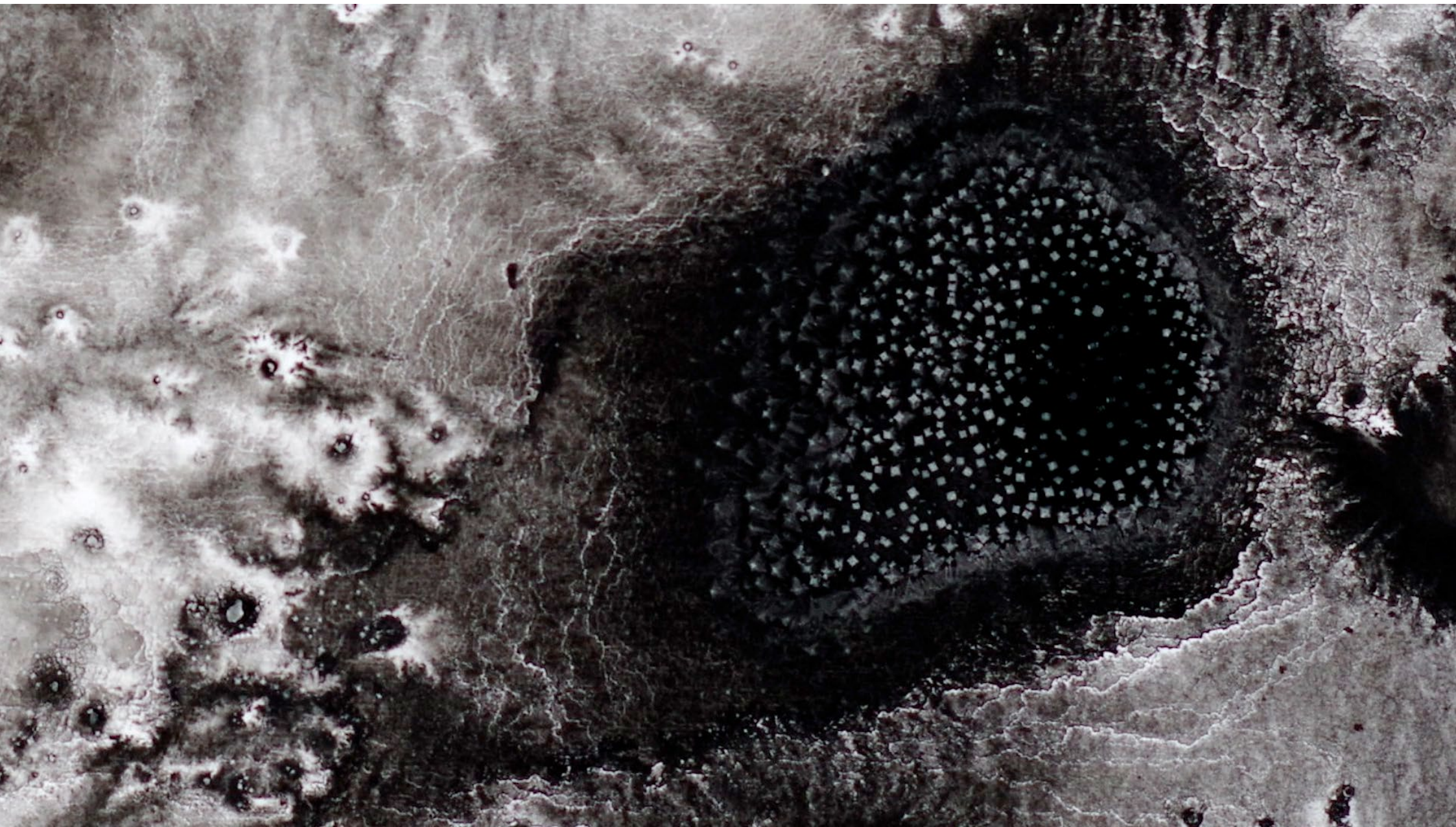
D 2024, 3 min.

The camera explores what eludes our perception. We look into the depths of time and space where the creation and passing of the universe crystallises out of salt and ink.

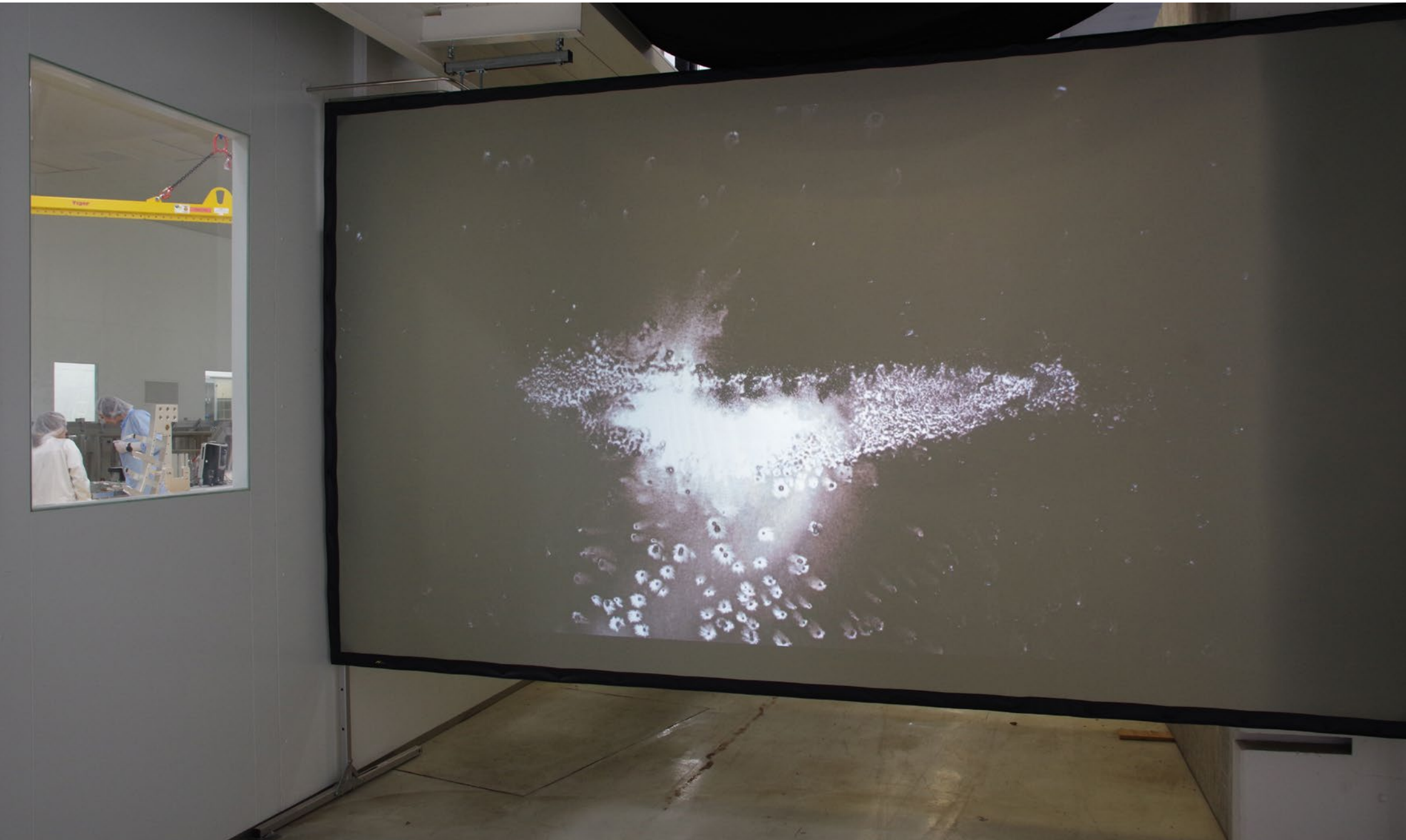
Video Link Vimeo: <https://vimeo.com/913035236?share=copy>



ENTROPY (film still), 2024, 3 min, stop motion with ink and salt on paper



ENTROPY (film still), 2024. 3 min, stop motion with ink and salt on paper

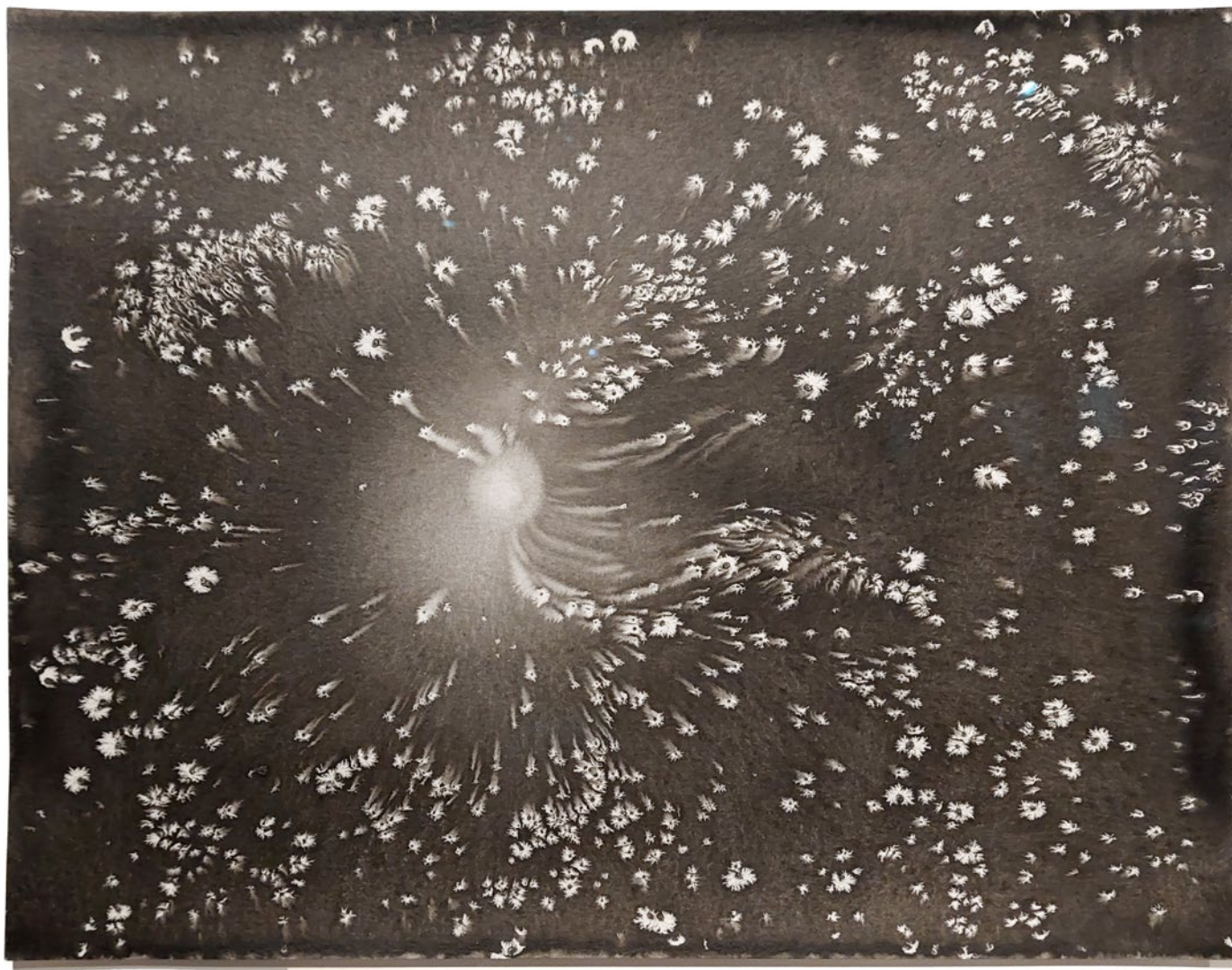


Forces of Attraction - Art Meets Science, 2024, DESY Science Lab, Hamburg

ENTROPY (film still), 2024, 3 min, stop motion with ink and salt on paper



ENTROPY II, 2022, ink and salt on paper, 21*50 x 65 cm, Museum der Arbeit, Hamburg, Germany



ENTROPY (Dark Matter), 2022, ink and salt on paper, 50 x 65 cm



ENTROPY (nebula), 2022, ink and salt on paper, 50 x 65 cm



ENTROPY III, 2022, ink and salt on paper, 21*50 x 65 cm, Studio Hamburg



HIGH ENERGY

HIGH ENERGY, 2023, together with Marcel Große, Simone Kessler & Jana Schumacher, in conjunction with HEP-EPS conference, CERN, Hamburg

HIGH ENERGY

conference and exhibition

The exhibition HIGH ENERGY, part of the ongoing project ART MEETS SCIENCE, was shown in conjunction with the 2023 High Energy Physics Conference of the European Physical Society (EPS-HEP) in Hamburg, hosted jointly by the DESY research center and the University of Hamburg. The EPS-HEP conference, which spans a history of over 50 years, is one of the major international conferences in the field. This year, about 800 scientists from across the world will come together to discuss all major areas and latest developments in high energy and particle physics, astroparticle physics, neutrino physics, and related areas.

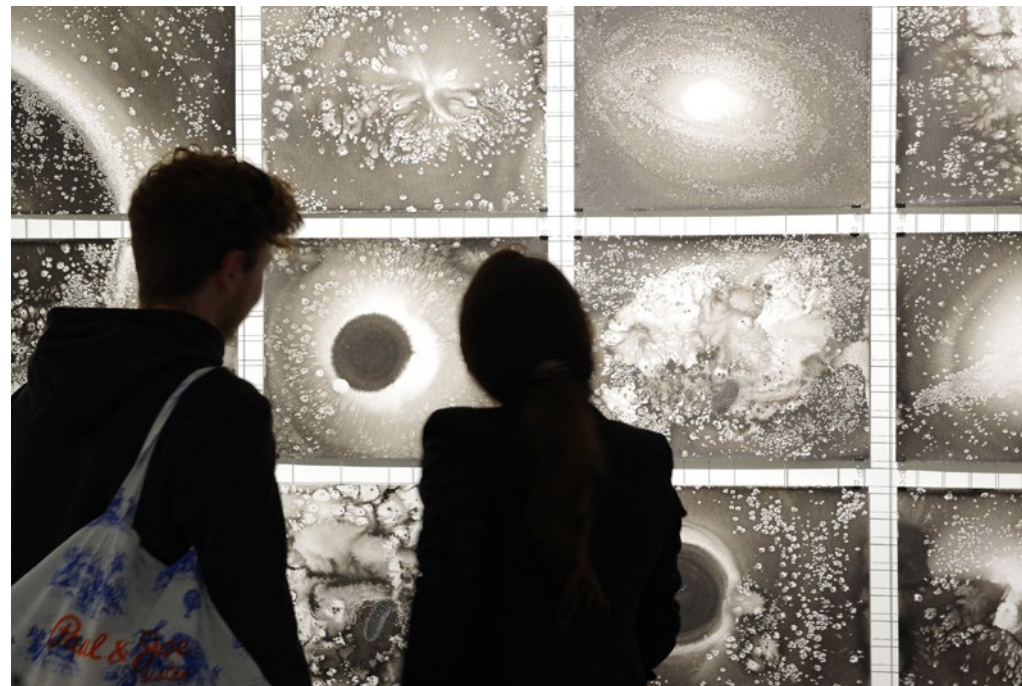
The participating artists are exploring scientific questions from various aesthetic perspectives in a broad range of mediums, including drawing, installation, and video.

Cosmic Encounters between Art and Science

How did the universe come into existence and of what does the matter surrounding us consist? Which systems and forces are active in it? And which place does our world have in the cosmic order? These questions are not only of concern to scientists. In the exhibition HIGH ENERGY, which is taking place in conjunction with the EPS-HEP conference 2023 in Hamburg, the latest developments in high energy, particle, and astroparticle physics will encounter current artistic explorations of physical phenomena and scientific discoveries. The participating artists Marcel Große, Simone Kessler, Julia Münstermann, and Jana Schumacher have been engaged with issues that are also of interest to researchers for a



HIGH ENERGY, 2023, *Nebelkammer / cloud chamber*



HIGH ENERGY, 2023, Julia Münstermann, *ENTROPY IV*, ink and salt on paper

longer period of time. A few years ago, they already took part in the collaborative project ART MEETS SCIENCE hosted by the Helmholtz research center DESY in Hamburg, which was dedicated to mysterious dark matter. The most recent encounter between art and science will take us to the cosmic realms extending between heaven and earth. On their adventurous journeys from the microcosm to outer space, the artists are following multiple paths in a wide range of mediums, including drawings, film, graphic prints, and spatial installations.

Devices used in particle physics inspired Marcel Große to launch an open-ended experiment, whose results will be presented in the exhibition. In her installation revolving around the forces of gravity, Simone Kessler is tracing the invisible processes that constantly surround us. In her series of processual ink drawings, Julia Münstermann creates pictorial cosmic spaces through a collision between intention and chance. And the drawings produced by Jana Schumacher visualize science's quest for solutions to the great mysteries of the universe.

The exhibition reveals that the methods of art and science follow similar impulses: both are concerned with making phenomena concrete that elude immediate access. The artists presented in its framework develop different aesthetic approaches to making the unimaginable and invisible manifest. In the process, they draw upon scientific methods to articulate realizations about our existence in the world, in the cosmos, and in the various dimensions of our lives as human beings. Scientists, in turn, make use of artistic practices in order to develop new ideas beyond the well-trodden paths. Conceiving the unimaginable, processes of intuitive research, the incorporation of coincidence and possible failure are artistic as well as scientific methods of casting light on the unknown, while heading towards the wonders of our universe, whose exploration has only just begun.

Text: Belinda Grace Gardner



Nachbild

Light and the boundaries of the visible are topics that Julia Münstermann explores in her work. How our perception is changed by the technical image and how our visual world is expanded by scientific progress are questions that play a central role.

NACHBILD I and *II* are based on a very special technical image, namely the last image of the Voyager on its way to leave our solar system forever. Shortly before the last possible image transmission, it turned around once more and took a photo of our Earth. The Earth barely a pale blue dot of light is so small that the computer has to „invent“ more to it in a digital enlargement than there is information on the photo itself. The result is a blurred, undefined image that reflects a different view of our earth. The doubling of the image questions reproduction and originality and analyses the limits and representational capacity of the (technical) image. This also raises the question - what is fiction?

***Forces of Attraction - Art Meets Science*, 2024, DESY Science Lab, Hamburg**

***Nachbild I / II*, 2021, Acrylic on canvas, 190 x 140 cm**



ENTROPIC MATTER

ENTROPIC MATTER

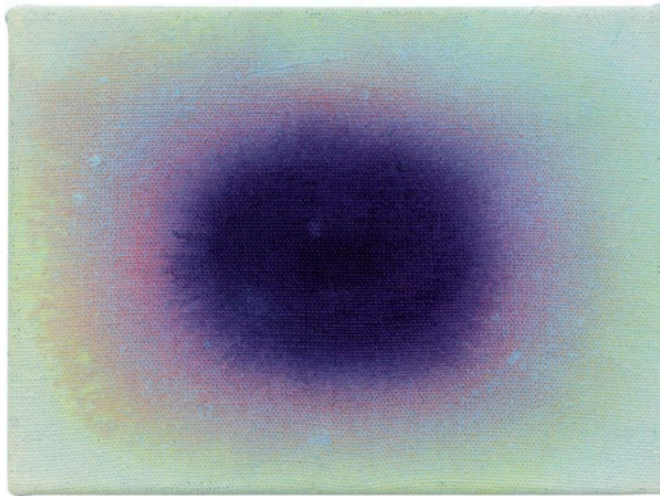
At the Deutsches Elektronensynchrotron (DESY) in Hamburg, particles are accelerated and made to collide to learn more about the structure of matter in its smallest dimensions. Though the research is conducted at an extreme micro level, one of its ultimate aims is to explain phenomena at the furthest macro level, for example by finding dark matter to thus decipher how the universe evolved. An estimated 85% of all matter structuring our universe is dark matter – the epitome of the unvisualisable. Screens, at the institute, are nevertheless ubiquitous. They indicate the status of the collider and at times display images of particle collisions. These screens describe phenomena that we cannot grasp, are at once images and non-images.

In physical science, to visualise processes at an extreme macro and micro level is problematic, because they lie beyond the boundaries of the visible. Technical images, though strictly speaking not metaphysical, thus describe a reality outside our experience and expand our world.

Julia Münstermann's paintings are deeply involved with problems of scientific visualisation.

In her recent series entitled ENTROPY, we see what appear to be black and white images of galaxies, interstellar nebulae, and black holes. The artist's approach references not only familiar black and white photos made from the early 20th century onwards up to present pictures by the Hubble telescope, but also graphic visualisations of phenomena that cannot be registered with (radio)telescopes at all and therefore depend on mathematical projection and the ima-

ginative capacities of graphic artists that specialise in this field. But there is a key difference. In Münstermann's work the formative principle has shifted from the direct manipulation of material to physical processes that are only partly controllable. The dissolution energy of salt crystals is put to use, causing the water and ink to flow according to principles that make the result difficult to calculate in advance. In



Anti-strange Squark, 2020, Acrylic on canvas, 22 x 30 cm

this way, disorder is introduced into the working process. This paradoxically results in the formation of structures, and entropy is counteracted.

Entropy is the physical measure of disorder. Our universe strives towards maximum entropy, that is, if no force acts against it, disarray increases. One of the forces acting against entropy is gravity. It manages to create formations

that are structured, i.e. more orderly, like clusters, galaxies, solar systems, stars and planets. Our galaxy, the Milky Way, for instance, is a rotating spiral galaxy held together not only by regular matter, but also by dark matter and a black hole at its centre.

Münstermann of course also manipulates her materials with certain results in mind – so the force acting against entropy is present in that sense as well. But the subtle gradations and surprising variations in the structures on the picture plane are also influenced by entropy and chance, and it is this quality that makes the work especially convincing.

In this exhibition, the ENTROPY series is juxtaposed with a number of paintings of screens made with the problems of visualising dark matter in mind. While in the former the hand of the maker has been increasingly expelled from the working process, the latter works depend more on the direct manipulation of the paint with brushes, and are built up in multiple layers. This layering results in a transient shimmer, a surface which on the one hand creates a sense of depth, on the other confronts the viewer with an impenetrable barrier; a hermetic refusal of customary reference. By failing to provide a central motif, the seamless transitions and endless depth of these paintings become disorienting and rather reinforce the sense that we are looking at absolute non-representation. And yet there we are, by ourselves, oddly affected, staring into their cool emptiness.

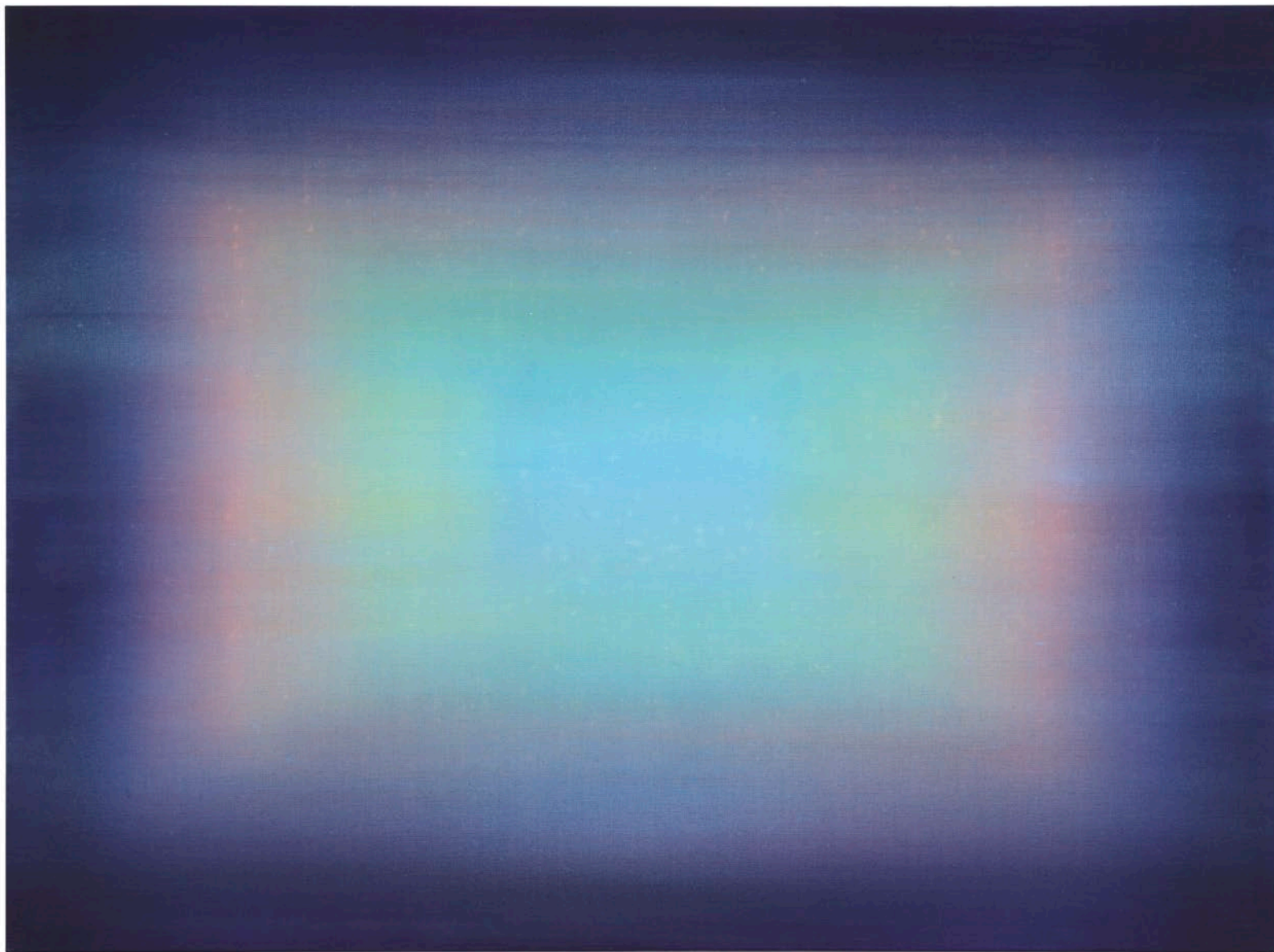
Text: Raaf van der Smaan



SPECTRAL SPHERE, 2021, Acryl auf Leinwand / Acrylic on canvas, 80 X 110 cm



ELECTRIC SHADOW



ELECTRIC SHADOW (Zoom), 2020, Acrylic on canvas, 140 x 190 cm

ELECTRIC SHADOW

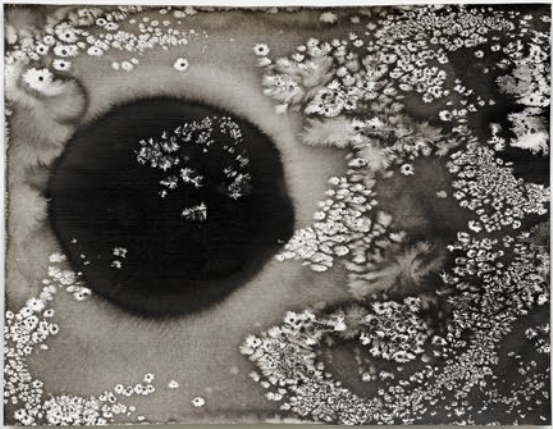
Electric Shadow. This is the title of a current series of iridescent works by the painter Julia Münstermann that seem to glow from within. A selection of large and small-format “electric shadows” can be found at various locations in DESY, in the auditorium and in various research facilities. The analogue, non-objective representations of floating prismatic color gradients refer to the ubiquitous screens of computers, TV sets and the control monitors that are often used at the research center itself, on which reality appears as a fleeting shimmer and the barriers between places and times are lifted. With the image disturbances, resolutions and refusals, which the artist brings to view in painting, the problem of the legibility of the images in the constant media noise of our digital age is also addressed. In her works, which appear at the same time as light-images and non-images, it is not least about making visible phenomena that - like the mysterious dark matter - elude visibility.

Text: Belinda Grace Gardner

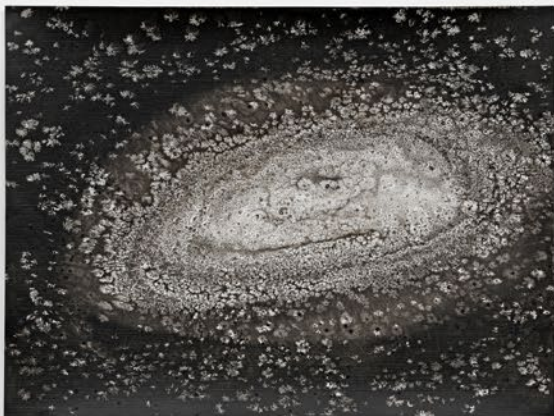




JULIA MÜNSTERMANN



CV



JULIA MÜNSTERMANN

born in Cologne, Germany, lives and works in Hamburg and Berlin

EDUCATION

2002-2004	De Ateliers Amsterdam, two-year studio program and fellowship with frequent studio visits from artists like Marlene Dumas, Georg Herold, Rita McBride, Steve McQueen, Ceal Floyer, Willem de Rooij und Toon Verhoef
2002	Meisterschüler (Master/ MA Fine Art) of Prof. Jan Dibbets
1997-2002	Kunstakademie Düsseldorf (Art Academy), class of Prof. Jörg Immendorff, class of Prof. Jan Dibbets, Akademiebrief 2004
1998-2001	Philosophy at Heinrich-Heine Universität, Düsseldorf

FELLOWSHIPS, AWARDS

2024	Shortfilmfestival Hamburg, selected
2022	NEUSTART KULTUR 2022, Stiftung Kunstfonds
2021	Arbeitsstipendium 2021, Stiftung Kunstfonds
2020	NEUSTART, Modul A, BBK Bundesverband
2004	Buning Brongers Prijzen (Painting Award)
2003, 2002	Scholarship of the Dutch Ministry of Education, Culture and Science
2004, 05, 08	Koninklijke Prijs voor vrije Schilderkunst, Queen's Painting Award (shortlist)

RESIDENCIES

2013	Artist Residency "Where Where Art Space", Beijing, China
2010	two-month studio exchange, Brooklyn, New York
2002-2005	Amsterdam, Niederlande
2002-2004	Residency und Stipendium der Stiftung "De Ateliers" Amsterdam

PROJECTS

2024	Stop-Motion short film ENTROPY , 3 min. in collaboration with Sarah Drath, Shortfilmfestival Hamburg, selected
2023	Organization and partizipation in the Art Meets Science Exhibition HIGH ENERGY in conjunction with the 2023 High Energy Physics conference of the European Physical Society
2022	Wie alles begann , collaboration between art and science for the Exhibition The Beginning of Everything in the Museum der Arbeit, Hamburg together with Universität Hamburg and DESY in conjunction with the cluster of excellence Quantum Universe
	Taming of Chance , Partizipation on the project of Olsen Wolf together with Prof. Christian Schwanenberger, Deichtorhallen Hamburg
2021, 2017	Werktalk , Studio and Artist Talk in Berlin
2017	Dark Matter -Art meets Science , collaboration between art and science on the subject of Dark Matter, DESY, Deutsches Elektronen-Synchrotron, Hamburg
2015	Organisation of the exhibition Memories of the Digital Age
2011	Artistic realisation and collaboration on the project "Meine O- Vision", Zoom Berlin, Axel Springer Academy (European Newspaper Award)
2003-2008	Acting in films by Keren Cytter, Date Series 2004, Atmosphere 2005, Teufelsberg 2008 and others.
1998-1999	Assistant of Prof. Jörg Immendorff

EXHIBITIONS

SOLO SHOWS (selection)

- 2023 **12 x 1**, Galerie Watson, Jupiter Hamburg with Jacqueline Hen
- 2022 **Entropic Matter**, Projektraum nationalmuseum, Berlin
- 2019 **Obscure Transparency**, plan.d. Düsseldorf, with Katja Gärtner
- 2018 **Celestial Screens**, Kulturforum Kapelle, Waltrop
- 2015 **Electric Shadow**, Freiraum Galerie, Cologne
- 2013 **Beijing de tiankong**, Nali Nali Art Space, Beijing China
Fernsehen, Punt WG, Amsterdam
- 2012 **Abwesen**, Koffer, Berlin
Urban Idols II, Deutscher Städtetag, Cologne
- 2011 **Aerials**, Aschenbach&Hofland Galleries, Amsterdam
Bluemoon, Cussler, Berlin
- 2009 **Aerospace**, DadaPost, Berlin
- 2008 **Urban Idols**, Autocenter, Berlin
- 2007 **Prospect**, Aschenbach&Hofland Galleries, Amsterdam
- 2006 **City Oddity**, De Kabinetten van de Vleeshal, Middelburg
Walking on Air, Aschenbach&Hofland Galleries, Amsterdam
- 2005 **Paintings**, Galerie Michael Cosar, Düsseldorf
Revealing Revels with Rebels, Galerie Van Wijngaarden Hakkens, Amsterdam
- 2004 **Paintings**, Galerie Michael Cosar, Düsseldorf, with Ch. Forsen
toshi-saikousoku-syoujyo yulica ga, fuji-park building, Tokyo, with Mineo Kato
Paintings, de Ateliers, Amsterdam

GROUP SHOWS (selection)

- 2024 **Yeosu International Art Festival**, Republic of Korea
Forces of Attraction, DESY, Hamburg
Anthroposzenische Landschaften, GaDeWe – Galerie des Westens, Bremen,
 Galerie Perpetuel, Frankfurt, Atelierhof Kreuzberg, Berlin
Licht, Taylor Wessing, Hamburg
3yy, Red Ger Gallery, Mongolian Arts Council, Ulaanbaatar, Mongolia

- 2023 **HIGH ENERGY**, ART MEETS SCIENCE, EPS-HEP Conference, Grindel, Hamburg
- 2022 **Wie alles begann**, Museum der Arbeit, Hamburg
Was ist Fiktion? - Kunst und Wissenschaft im Dialog, Künstlerhaus Sootbörn HH
- 2021 **New Order**, PR17, Berlin
- 2018 **Precurse**, Park Place Gallery, Brooklyn, NY
Babettes Best Records, Bar Babette, Berlin
- 2017 **Dark Matter - Art Meets Science**, DESY, Hamburg
Standard International #4 Spatial Clearings, Glint, Berlin
- 2015 **HIDDEN IMAGES**, 51 Zattere, Venice
Memories of the Digital Age, Rosalux, Berlin
trinkets for the rich, nationalmuseum, Berlin
I Amsterdam You Berlin, Galerie Brandt, St. Johannes Evangelist Church, Berlin
- 2014 **Koffer-Konzentrat**, Koffer, Berlin
Show me (Your Idols), Kreuzberg Pavillion, Berlin
UTA, ART WEISSENSEE, Kunsthalle am Hamburger Platz, Berlin
Art is a Beautiful Thing, Freiraum Galerie, Cologne
PAN Amsterdam, Galerie Brandt, Amsterdam
- 2012 **Choses vues à Droite et à Gauche**, l'oiseau presente..., Ballhaus Ost, Berlin
Miniature by Serendipity, Kosmetiksalon Babette, Berlin
- 2011 **The Raising of Lazarus**, Projectspace Nationalmuseum, Berlin
- 2010 **Traveling without moving**, CosarHMT, Düsseldorf
Girls overkill, Künstlerhaus Bethanien, Berlin
SOS Kunststück 2010, Grand Elysee, Hamburg
- 2008 **Koninklijke Prijs voor vrije Schilderkunst 2008**, Gemeentemuseum, Den Haag
Precurse, Pojektraum Nationalmuseum, Berlin
Our Project Presents Our Project, AiB, Brooklyn, New York
Preview Berlin, Aschenbach&Hofland Galleries
- 2007 **ART Cologne**, Galerie Michael Cosar, Aschenbach&Hofland Galleries
DK, Edition, Pro qm, Berlin
ART Amsterdam, Aschenbach&Hofland Galleries, Galerie Michael Cosar
- 2006 **Spooky**, Stanley Brouwn Huis, Utrecht
ART Cologne, Galerie Michael Cosar, Aschenbach&Hofland Galleries
- 2005 **Koninklijke Prijs voor vrije Schilderkunst 2005**, Gemeentemuseum, Den Haag
- 2004 **Buning Brongers Prijzen 2004**, Arti et Amicitiae, Amsterdam

- 2004 **Koninklijke Prijs voor vrije Schilderkunst** 04, Koninklijke Palais te Amsterdam
When dreams come true, Van Wijngaarden Hakkens, Amsterdam
Group show 86, Amsterdam
- 2002 **Menschenbilder**, Wissenschaftszentrum Gelsenkirchen
Art&Bars, Kunsthalle Koblenz
Cabinet with outfit, Galerie Andreas Bruening, Düsseldorf
- 2000 *real*, Bittweg, Düsseldorf

Publications, Reviews (selection)

- 2023 **Kunst meets Teilchenphysik**, Deutschlandfunk Kultur, Studio 9, Radio
Ausstellung „High Energy“: Teilchenphysik wird zu Kunst, NDR, Kulturjournal, Radio
- 2020 **CMYK**, Edition, Memory game
- 2017 **Kunst im Teilchenbeschleuniger: Neues Licht ins Dunkel**, taz
- 2014 **Autocenter, Space for Contemporary Art Berlin**, Distanz Verlag
- 2013 **Abwesen**, Katalog, Text Maarten Bertheux
Britain and Germany Imagining the Future of Europe, Leonard Novy, Palgrave Macmillan, Cover
- 2011 **Stilbruch, Tipp von Christian Stahl**, RBB Fernsehen, television
- 2010 **Künstlerische Doppelexistenzen**, Junge Kunst, Text Julia Brodauf
- 2009 **Wenn die Städte nachts leuchten**, Mercedesmagazin, Text Robert Zsolnay
Aerospace, DadaPost, exhibitioncatalogue
- 2008 **Urban Idols**, Autocenter, exhibitioncatalogue
- 2007 **Betoverende schilderijen van nachtelijke hemels**, NRC Handelsblad
Prospect, Aschenbach&Hofland Galleries, exhibitioncatalogue
- 2006 **City Oddity**, De Vleeshal, exhibitioncatalogue, Text D. van den Boogerd
Zon schuift versneld over tegelvloer, NRC Handelsblad
- 2004 **Buning Brongers Pijzen 2004**, exhibitioncatalogue

Collections (selection)

Deutscher Städtetag, Cologne
 Caldic Collection, The Netherlands
 De Heus – Zomer collection, The Netherlands
 Coma collection, The Netherlands
 Sparkassen Informatik, Frankfurt
 Boekel De Neree N.V., The Netherlands
 and further international collections

