

PHENOMENA



ELECTRONIC PRESS KIT + PROGRAM DESCRIPTIONS

CONTACT

Rob Innes (producer)

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Number of episodes: 9 (plus one film)

Production companies: Gatti Pty Ltd, Mashup Pictures

Finance partners: Screen Australia, ABC, Film Victoria

Producers: Rob Innes, Josef Gatti

Director: Josef Gatti

FORMATS:

- **Series:** 9 episodes (4-6 minutes per episode) for ABC iview, YouTube and Facebook.
- **Immersive film:** 28 minute immersive experience of just the art and music from the series for ABC iview and YouTube.
- **Immersive experience:** 5 minute 4-screen immersive experience available at the Melbourne Museum Digital Learning Lab.

FULL SYNOPSIS:

LOGLINE (under 255 characters/25 words)

A psychedelic journey from chaos to geometry - where art and science collide to explore the patterns and evolution of nature - and our relationship to it.

SHORT SYNOPSIS (under 75 words)

Phenomena fuses art and science together to explore naturally occurring patterns, and the fundamental forces of nature that create them, to take us on an ambitious, innovative, and psychedelic journey through the fabric of the universe. Filmmaker Josef Gatti recreates nine 'phenomena' to produce mesmerizing art films, which are then paired with an original music score by Kim Moyes from Australian dance music duo *The Presets*.

LONG SYNOPSIS (under 300 words)

Phenomena is an online series and an immersive film that fuses art and science together to explore naturally occurring patterns, and the forces of nature that create them. Art and science collide with music and technology to take us on an ambitious, innovative and psychedelic journey through the fabric of the universe.

In *Phenomena*, filmmaker Josef Gatti takes nine 'phenomena' of nature and recreates them by manipulating science and technology to produce mesmerizing art films that visualise the

patterns formed by the fundamental laws of the universe. The art is captured by camera and produced in practical experiments, without the use of CGI. The art films are paired with an exciting and original electronic-cinematic music score by Kim Moyes from Australian dance music duo *The Presets*.

The phenomena include energy, matter, soundwaves, light, electricity, magnetism, gravity, magnitudes and evolution. Each phenomenon is introduced by a narrator who guides the audience through the experience by providing context around the experiment, the science behind the visuals, and the natural force's role in the universe. The phenomena follow each other in a narrative, building on each other to tell the story of the universe unfolding from it's elemental origins, to ultimately create the stars, earth and life.

Requiring countless experiments and innovative thinking, these natural phenomena are manipulated in controlled environments with state of the art technology. Time is stretched with slow motion revealing moments that would otherwise be unseeable. Microscopic characteristics beyond the human eye made visible by Electron Microscopes. Days turned into seconds with time lapse photography. And light manipulated to make the invisible visible. Paired with the original soundtrack, these powerful visualizations create a unique experience that leads to new insights and perspectives on the universe and our place within it.

EPIISODE BREAKDOWN:

EPIISODE 1: ENERGY

Energy is at the foundation of all change in the universe. Chemical reactions reveal explosive and vivid patterns that visualise the power and beauty of energy.

Description:

A look at energy's ability to create change. In a petri dish, alcohol and inks are dropped into hydrocarbons. The chemical reactions create explosive reactions in the liquid as it changes. Over dozens of experiments, high resolution cameras captured vivid and incredible images, with the chemical reactions replicating those created on the sun's surface.

EPIISODE 2: MATTER

The shape of matter is temporary. Under changing temperatures, a saltwater mixture transforms from liquid into a kaleidoscope of crystals.

Description:

Exploring the way temperatures can change the shape of matter. A variety of salts are mixed into water, creating a supersaturated solution. First boiled, then poured over a glass plate where it begins to rapidly cool and evaporate. In this new and cooler environment, the solution begins to solidify, transforming into crystals. Using a variety of techniques such as slow motion, macro cinematography, and timelapse photography shot over hours. Throughout weeks of experimenting, and teaming up with visual artist Emme Orbach who specialises in crystal work, we captured stunning vision and colours that visualize the formation of matter.

EPIISODE 3: WAVES

Waves are all around us. As sound waves move through water and salt, they vibrate into geometric patterns that visualize the nature of waveforms.

Description:

Uncovering the geometric nature of soundwaves. This is visualized by directing sound waves through water and salt. The water rests in an upright facing speaker, and the salt rests on a high frequency mechanical wave driver. When the devices are activated with specific frequencies, the water and salt particles vibrate in synchronization with the soundwaves, forming incredible geometric patterns.

EPISODE 4: LIGHT

Light illuminates the universe in colour. Through macro photography, the structure of a soap bubble reveals the colours of the rainbow.

Description:

Light not only illuminates but gives colour and shape to things. Macro lenses and a powerful white light source is used to magnify the intricate details on an ever-shifting soap bubble surface. A large light suspended over the bubble works to provide the ability to look at the bubble's structure. The bubble acts like a swirling prism, splitting the white light into all the colours of the rainbow.

EPISODE 5: ELECTRICITY

The universe is infused with electricity. An electric current burns across a wood surface creating incredible Lichtenberg figures .

Description:

A look at electricity flowing through matter. A powerful electric current is connected through a piece of wood, which is made conductive with a salt solution. The resistance provided by the wood slows the current down, causing it to burn along the path of least resistance. The burning path visualises what's known as Lichtenberg figures, which look like the natural flow of rivers, skeletons or the structure of trees.

EPISODE 6: MAGNETISM

Magnetism is an invisible and influential force. Magnetic fields distort a metallic liquid into spectacular shapes that visualise magnetism in three dimensions

Description:

Exploring the attractive and repulsive ability of magnetism. A special metallic liquid called 'ferrofluid' becomes magnetic when inside a magnetic field. Using powerful electromagnets, the strength and direction of the magnetic fields are varied to manipulate the ferrofluid. It twists and distorts into the shape of the field, revealing the influence of magnetism in three dimensions. Specially filmed using a state of the art motion control and a high speed camera, the movement and patterns of the fluid look alien and otherworldly.

EPISODE 7: GRAVITY

Gravity and matter are inseparable. This connection is visualized through a simulation of the orbital motion of solar systems and the spiral dance of galaxies.

Description:

In the universe, gravity distorts spacetime and attracts all matter together. In this experiment, a piece of fabric representing spacetime is stretched over a large hoop. A heavy ball is dropped into the fabric, distorting it like a star distorts the space around it. Smaller ball bearings are then propelled into the fabric. They spiral around the centre mass, simulating the orbital motions of solar systems and spiral dance of galaxies. This experiment was filmed under ultraviolet light to enhance the orbital motions of the ball bearings. The high resolution

camera was operated with robotic motion control, allowing us to match the rotating motions created by the galaxy simulation.

EPISODE 8: MAGNITUDES

There is no known limit to the scales of things. Technology reveals surface patterns beyond our perception at orders of magnitude - from microscopic to cosmic.

Description:

Matter can take shape anywhere between simple and minuscule, to enormous and complex. Using state of the art technology surface patterns of matter are revealed beyond our perception, at orders of magnitude. Using an electron microscope, the microscopic world is captured with magnifications beyond ten thousand times, producing high resolution black and white images that reveal details beyond the reach of light. These images are then contrasted against the surface details of earth, captured by NASA from space. These two extremes are bridged together with natural imagery from the human perspective, creating an awe inspiring perspective of our planet.

EPISODE 9: EVOLUTION

Life is the most complex form of matter. The forces of nature combine, and simple lifeforms evolve into all the diversity of living things.

Description:

Lifeforms are the most complex form of matter we know. Beginning in the micro, this episode looks at a single celled life form that was filmed over a month. It captures the life form using energy to replicate, grow, and explore its environment. We then move into a timelapse of a frog egg growing into a tadpole, then undergoing metamorphosis into a frog which was filmed over 2 months. The same forces driving the evolution of the single celled organism also drive the tadpole, revealing how lifeforms work in both simple and complex forms. The episode, as the end of the series, hints at the interconnectedness of all phenomena explored throughout the series, and frames life as a rare and spectacular manifestation of the universe working in harmony with all natural forces.

PHENOMENA: EXPERIMENTAL FILM

A psychedelic journey from chaos to geometry - where art and science collide to explore the patterns and expressions of nature - and our relationship to it.

Description:

The images in this film are all real. Captured by camera, through practical experiments, where energy and matter collide to produce vivid patterns. The patterns reveal natural phenomena that shape everything in the universe, from atoms to stars, earth, and life. On this journey we are transported through psychedelic worlds created by energy, matter, soundwaves, light, electricity, magnetism, gravity, magnitudes and evolution. Time is stretched with slow motion revealing moments that would otherwise be unseeable. Microscopic characteristics beyond the human eye are made visible through microscopy. Days turned into seconds with time lapse photography. And light is manipulated to make the invisible visible. Paired with a powerful electronic-cinematic original score, the spectacular visualizations of the forces of nature create a unique and awe inspiring experience that leads to new insights and perspectives on the universe and our place within it.

YOUTUBE TITLE/DESCRIPTIONS/TAGS:

Title: ENERGY — A changing universe in chemical reactions — Phenomena (4K)

Episode Tags: Energy, chemical reactions, elements, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, slow motion, timelapse, macro, 4K, 6K

MATTER — The transformations of matter as seen in crystallization — Phenomena (4K)

Episode Tags: Crystal, crystallization, salt crystal, iridescence, polarization, geometry, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, slow motion, timelapse, macro, 4K, 6K

WAVES — Visualizing sound through cymatics and resonant frequencies — Phenomena (4K)

Episode Tags: Waves, standing waves, cymatics, resonance, chladni plate, geometry, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, slow motion, timelapse, macro, 4K, 6K

LIGHT — The colours of the visible spectrum on the surface of a soap bubble — Phenomena (4K)

Episode Tags: Reflection, refraction, visible spectrum, prism, iridescence, thin film interference, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, slow motion, timelapse, macro, 4K, 6K

ELECTRICITY — An electric current flows through wood in real time — Phenomena (4K)

Episode Tags: Electricity, electrons, lightning, current, voltage, lichtenberg figures, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, slow motion, timelapse, macro, 4K, 6K

MAGNETISM — The magnetic field visualized in three dimensions with metallic liquid — Phenomena (4K)

Episode Tags: Magnetism, electromagnets, ferrofluid, magnetic fields, attract, repel, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, 1000 fps, slow motion, timelapse, macro, 4K, 6K, phantom, BOLT

GRAVITY — A simulation of solar systems and galaxy formations — Phenomena (4K)

Episode Tags: Gravity, gravity visualized, gravity simulation, ultra violet, black hole, solar system, galaxy, orbit, spirals, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, 1000 fps, slow motion, timelapse, macro, 4K, 6K, phantom, BOLT

MAGNITUDES — Recurring patterns at extreme scales of our universe — Phenomena (4K)

Episode Tags: SEM, electron microscope, microscopic, earth, earth from space, NASA, international space station, fractals, fractal, surface patterns, magnitude, orders of magnitude, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, slow motion, timelapse, macro, 4K, 6K

EVOLUTION — The patterns of life seen in organisms from simple to complex —
Phenomena (4K)

Episode Tags: Evolution, growth, cells, organism, life, single cell, egg, tadpole, frog, metamorphosis, entropy, consciousness, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, slow motion, timelapse, macro, 4K, 6K

PHENOMENA EXPERIMENTAL— A psychedelic journey through patterns of the universe and forces of nature (4K)

Episode Tags: Energy, matter, waves, light, electricity, magnetism, gravity, magnitudes, evolution, phenomena, natural phenomena, forces, forces of nature, psychedelic, trippy, patterns, science, experiment, nature, the universe, cosmos, 1000 fps, slow motion, timelapse, macro, 4K, 6K, phantom, BOLT

CREATIVE STATEMENT ON HISTORY AND INSPIRATION OF PROJECT

Written by Josef Gatti (director)

PHENOMENA was born out of my curiosity for the universe and experimentation with technologies. Late in 2016 I found myself looking for new ways to tell stories and connect with audiences. at the same time I had been discovering new ideas through science and philosophy. This intersection of my personal and professional journey is where it all began.

Inspired by my Dad, a physics teacher, I created a trilogy of short films that would eventually evolve into PHENOMENA. His scientific expertise and my technical proficiency in cinematography produced some of the most advanced and magnificent images of their kind. These films were subsequently screened at film and music festivals in Australia.

This simple experimentation in filmmaking soon developed into a project of epic proportions; an abstract visualization of natural phenomena that reveal the nature of the universe. With a unique visual aesthetic propelled by a powerful score, the project's greatest influences are *2001: A Space Odyssey (1968)*, *Samsara (2011)*, and *Cosmos: A Spacetime Odyssey (2014)* series.

Through my lens and camera, I'm able to capture and manipulate both light and time. In PHENOMENA, both of these capabilities are taken to the extreme through specialist photographic techniques - timelapse, macro, state of the art motion control, and ultra slow-motion. Captured in 6K RAW, the images produced are not only sophisticated, they also provide a look at the universe beyond our natural perspective.

Each film required countless hours of experimentation with both science and cinematography. In every attempt there were days of testing and failures before the patterns were found, and only then began the process of recording. My approach to this process was to have as little influence over the images as possible. This was achieved by setting up the science and tech in a way that allowed me to set focus, press record, initiate the experiment, and allow the forces of nature to express themselves as naturally as possible. I'd spend hours and hours watching the universe put on a beautiful show, losing days at a time and delving deeper into the abstract nature of the universe.

The making of the first film in the project 'Waves' - which visualizes soundwaves in water - was a defining moment. The first time I turned the speaker on I did not really know what to expect. Seeing the cymatics patterns come to life through the lens was a euphoric experience, it was like looking into a portal into the fabric of the universe. It was in my attempt to capture the beauty unfolding before me that defined the project - to see and experience the most elemental aspects of nature.

Ultimately, PHENOMENA reframes the universe around us to create an experience that is not only awe inspiring, but encourages us to reconsider our place in the universe, and enriches our understanding and connection with nature.

KEY CREATIVE BIO'S:

Josef Gatti - filmmaker

Josef Gatti is an emerging filmmaker and artist, specializing in storytelling through new technologies and mediums. Following an early career in producing television at Nine Network, Josef began experimenting with innovative digital technologies and techniques and found success in both original and commissioned work across film, television, in the music industry, and with a variety of online and digital formats. Recently, Josef has been creating bespoke content for some of Australia's leading music festivals and artists, including directing the music video *Carry You* for Missy Higgins and Tim Minchin. In 2018 Josef co-created the Internet character and webseries *Tofu Chan*, which has a growing and fanatic global audience. In this time the comedy series has reached an audience of over 10 million and was featured on *Adult Swim* in 2020. Recently, Josef created a trio of innovative short films *Waves*, *Resonance*, and *Lichtenberg*, which screened at Adelaide Film Festival (2018), Splendour in the Grass (2019), and SCINEMA International Film Festival (2020). These films formed the concept from which the forthcoming ABC series PHENOMENA was based on. An adaptation of this work is being exhibited throughout 2021 at the Melbourne Museum's Digital Learning Lab, in their immersive projection display.

Rob Innes - producer, executive producer

Rob Innes is a producer with a focus on innovative storytelling. He has previously been named as a "Ones to Watch" by the Screen Producers of Australia. After founding Mashup Pictures, he has produced and directed ABC TV original documentary series *Housemates* (series 1 and 2), and then creative documentary comedy series *What Could Go Wrong?* for ABC digital. Rob is producer of *Phenomena* with director Josef Gatti, he has produced director Charby Ibrahim's short film *Bright Lights* for The Guardian, worked with VICE Media, Monash University, and recently produced and directed the digital series and film *Youth On Strike!* with youth publisher Junkee Media which won the Best Documentary Webseries 2020 award at the Melbourne Documentary Film Festival, and was nominated for an Australian Directors' Guild award. Rob has also created the webseries *Busker Stories* that has more than 1 million views on YouTube. As well as working with diverse creatives and developing projects in both documentary and scripted, Rob also works as a segment producer with Thinkative Television on the ABC series *The Weekly* with Charlie Pickering.

Kim Moyes - music composer

Multiple ARIA Award winner Kim Moyes is half of iconic Australian dance music duo The Presets plus a whole lot more. Working on his own under the moniker K.I.M, he has

produced and co-written with DMA's, Connie Mitchell, DZ Deathrays, Golden Features, Moody Beach, Keli Holiday, Perfect Moment, Slum Sociable, The Australian Chamber Orchestra, Northeast Party House, Jack Ladder & The Dreamlanders, Digitalism and Kirin J. Callinan amongst many others. He has also created acclaimed remixes for a wide range of artists including Tove Lo, Kings Of Leon, Cassius, Tiga, Ajax, Flash & The Pan, Bag Raiders, Rinse and Midnight Juggernauts. K.I.M has toured his renowned DJ sets locally and internationally for the last 15 years and released several solo EPs via Modular Recordings, Motorik! Records, Unknown Records, Rallye-Klee Records (Japan) & Bang Gang 12 Inches. In 2018 he launched "Here To Hell", a new record label for emerging Electronic artists that Kim runs with veteran Melbourne DJ and Zero Percent partner Mike Callander. His work with The Presets includes co-writing and co-producing all of the band's work and performing live behind his drum kit at some of the world's biggest music festivals.

Alice Stephens - cinematographer (setup scenes)

Alice Stephens is an award-winning Melbourne-based cinematographer with a strong passion for storytelling. She graduated with a Bachelor of Film and Television at Swinburne in 2015 and has gone on to establish herself as one of Australia's up and coming female cinematographers. Alice has shot over 10 short films that have premiered at Tribeca Film Festival, Melbourne International Film Festival, San Francisco Film Festival, Brisbane International Film Festival, Environment Film Festival Australia, Virgin Australia Melbourne Fashion Festival, has had work air on ABC Iview and SBS on demand. She recently won a silver Australian Cinematography Society Award for her work on short film Occupation. Finally in 2021 Alice had the pleasure and privilege to work on Phenomena with director Josef Gatti creating and designing each world in which the natural occurring experiments took place.

Ines Guarda - associate producer

Producer with over 12 years experience in television, film, and online video content, having worked in the broadcasting operations of three Olympic and Paralympic Games, seasons 3 & 4 of a Sesame Street co-production, and within the realm of corporate and commercial productions. Ines has worked for organizations such as AFL Media, the production of 'Phenomenon' (2021) by Josef Gatti, 'Tiny Souls' full feature documentary film (2019), the film '45 Minutes to Ramallah' (2013) and projects for the BBC, National Geographic and Arab Media, among other. Born in Chile and grew up in California from the age of three, Ines has lived and worked in several countries including Peru, Spain, United Kingdom, Egypt, Jordan, China, Russia, Brazil, Holland, Turkey and Australia.

Joseph Nizeti - co-producer

Joseph Nizeti is a versatile director, writer, composer, music producer and story consultant working with artists and filmmakers across the Australian film/music industry. Most recently, Joseph served as co-director and co-writer of feature documentary River (dir. Jen Peedom, co-dir. Joseph Nizeti). His experience in writing and post-production have made him an insightful collaborator across the storytelling process, with recent lecturing engagements in documentary story structure at AIDC and AFTRS Sydney, and story consultancy engagements with Jungle Entertainment, Wildbear Entertainment and director Samantha Lang. As a recording producer and composer, Joseph has an accomplished background across classical and film music. Since 2013, Joseph has collaborated frequently as composer and producer with violinist/composer Richard Tognetti AO on original music for

live touring and feature film productions, in addition to international touring engagements with the ACO as a keyboardist, percussionist and guitarist.

Dr Niraj Lal - science consultant

Dr Niraj Lal is a Visiting Fellow with the ANU Centre for Sustainable Energy Systems, Principal with the Australian Energy Market Operator, and resident scientist with ABC Kids Listen where he is host of the Imagine This podcast. Niraj graduated with a PhD in physics from the University of Cambridge as a Gates Scholar in 2012, was named as one of the ABC's Top 5 Scientists Under 40 in 2016, and presented his first ABC Catalyst program in 2020. He's the author of Henry the Flying Emu – a children's book about gravity, an academic expert with the International Energy Agency photovoltaics program, and regularly appears on television and radio to speak about science. More information at nirajlal.org

Paul Baxter - sound design and post

With over 26 years' experience in audio post production, a profound understanding of sound design, dramatic tension, and comedic timing, Paul has become a highly prolific sound designer in Australia and across the world. In 2008, Paul made the big move from head engineer, MD and co-owner of South Africa's number 1 sound studio, Sonovision, to put down roots and join Risk Sound in Melbourne, Australia. After 8 years as Senior Sound Designer and Specialist Manager, Paul started Baxter Sound in 2016, servicing the industry as an audio post-production studio and freelance sound designer. Throughout his vast and lengthy career, Paul has cultivated an extensive number of awards for his work from many prestigious award shows. Some of these include Cannes Lions, London International Awards, D&AD Awards, Clio Awards, Spikes Asia, Loerie Awards, AWARD Awards, MADC Awards, Rome International Film Festival, WebFest, and Cannes Court Métrage awards, among many others.

FULL CREDIT ROLL

Writer / Director / Producer: Josef Gatti
Producer / Executive Producer: Rob Innes
Executive Producer: Michael Lynch
Music by: Kim Moyes
Narrated by: Freya Stafford
Cinematography (setup scenes): Alice Stephens
Co-producer: Joseph Nizeti
Science Consultant: Dr. Niraj Lal, AIP, IEEE, ASC
Associate Producer: Ines Guarda
Sound Post-production: Paul Baxter at Baxter Sound
Art Coordinator: Loren Bell
Technical Consultant: Jason Gaekwad
SEM Microscopist: Alan Pickhaver
Visual Artist: Emme Orbach
Costume Designer: Paris Culbertson
Phantom / Motion Control Operator: Tom David
Drone Operator: Dale Cochrane
Gaffer (Setup Scenes): Hannah Palmer

Based on the short films Waves, Resonance, & Lichtenberg
Created by Josef Gatti, with music by John-Paul James, and Co-produced by Alex Tsiaoussidis

Special thanks to: Mark Gatti, Miranda Culley, Bridget Hannah, Marilen Tabacco, Francesca Leonard, Dylan Jones, Robert Mond, Mark & Sandra Mayer, Matthew Taylor, Daniel Oldfield, Edwin Mayes, & The RMMF

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Screen Australia Investment Manager: Andrew Arbuthnot
Film Victoria Production Executive: Andrew Wiseman
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Galaxy imagery courtesy of ESA/Hubble
Saturn & Enceladus imagery courtesy of NASA/JPL-CALTECH/SSI
First image of a black hole courtesy of EHT Collaboration

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