

05-06.02.2025
CERN Science Gateway, Geneva

Uncertainty

CERN Art and Science Summit



Uncertainty^{3/5}

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The CERN Art and Science Summit celebrates CERN's forward-thinking approach to arts and creativity. This year's theme, Uncertainty, aligns with UNESCO's 2025 International Year of Quantum Science and Technology, marking a century since the foundational discoveries of quantum physics.

Under this thematic framework, the Summit convenes figures from art, literature, philosophy, science, and music to explore the influence of quantum physics on contemporary culture through a programme of keynotes, conversations, performances, and film screenings.

Building on its inaugural edition in 2024, the CERN Art and Science Summit is annually curated by Arts at CERN. A renowned platform for fostering dialogue between artists and scientists, Arts at CERN explores the cultural significance of fundamental research.

Public Programme

5 February | CERN Science Gateway, Auditorium A

17:30 **Doors open**

18:00 **Welcome and introduction to the day**

Frédéric Bordry, former CERN's director for Accelerators and Technology and chair of CERN Cultural Advisory Board, and Mónica Bello, curator and head of Arts at CERN.

18:10 **On the Uncertainty of Quantum**

With **Luis Álvarez-Gaumé**, director of Simons Center for Geometry and Physics at Stony Brook University, New York; and **Honor Harger**, executive director of ArtScience Museum, Singapore.

19:00 **Holly Corfield Carr, poet | The Spoem**

Listening for a voice in the dark, Corfield Carr embarks on a strange and supersymmetrical descent into language and lyrical thinking in search of what we might be unmaking when we are making things. As she begins to dig herself a hole, she will share new work which imagines correspondences between the known and the unknown spaces of the worlds and words we live in.

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19:10

Unknowability!

With **Jalal Toufic**, artist and thinker, based in New Cairo, Egypt, and **Shuddhabrata Sengupta**, artist and curator with Raqs Media Collective, based in New Delhi, India.

19:50

Rasheedah Phillips, artist and co-founder of Black Quantum Futurism | *Dismantling the Master's Clock: On Race, Space, and Time*

Reflecting on their residency at Arts at CERN, Phillips weaves personal experience with deep explorations of quantum uncertainty and its resonance with Black temporalities. Through an Afrodiasporic lens, they uncover how concepts like CPT symmetry and violations disrupt linear notions of time, inviting us to reimagine the mutable interplay of past, present, and future.

20:00

Performance by María Arnal, singer and composer

Based on her artistic research on synthetic voices and datasets, Maria Arnal presents a performance of unreleased choral compositions featuring her various vocal models. Centred on the new vocal narratives enabled by AI tools, this concert unfolds at the intersection of synthetic polyphony, dataset creation, digital lutherie, and the expressive power of her physical voice.

Film programme

5 - 6 February | CERN Science Gateway, Auditorium BC
Ongoing screenings from 9:00 to 17:00

The Summit features films by artists who have worked closely with the CERN scientific community, including Arts at CERN commissions and works by former residents. All films are screened at the Laboratory for the first time.

Embracing uncertainty as a fundamental aspect of reality and knowledge, the programme explores how film serves as a portal to articulate worlds, transforming the cinematic screen into a gateway to these realms.

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The programme premieres **HUM** (2025, 09') by **Tania Candiani**, the latest Arts at CERN's art commission with the support of the Didier and Martine Primat Foundation. This video essay explores the universal language of the trumpet shape—a form resonating through nature, culture, and the cosmos. Blending intricate visual and auditory layers, it traces connections from sinkholes and black holes to ancient instruments and conceptual thought, from alpine alphorns to experiments at CERN. **HUM** examines how this geometry amplifies the connections between the human, the natural, and the infinite, inviting viewers to uncover the unseen threads interweaving our world.

Artists examine the theoretical, material, and personal dimensions of science-making at CERN and beyond. They engage with the creative inquiries, the experimental labour, and the metaphysical implications of discovery. Through ethnographic observations, poetic narratives, and speculative dialogues, the films question how science shapes our understanding of the world.

In **Mass** (2020, 17') by **June Balthazard** and **Pierre Pauze**, CERN physicist Chiara Mariotti and Nobel laureate Michel Mayor navigate CERN's experiments and primordial caves within a speculative world on the brink of ecological collapse. As they await a new dawn, the scientists reflect on contrasting interpretations of the void. Once central to creation myths, the void remains one of science's unresolved questions, with both particle physics and astrophysics challenging classical notions of emptiness in their search for a unified explanation.

The View from Nowhere (2018 13'50") by **Semiconductor** offers an ethnographic observation of CERN's laboratory culture. The film brings together reflections by theoretical physicists Luis Álvarez Gaumé and John Ellis with filmed footage from high-tech workshops. It reveals the 'trading zones' where the creative process of modelling the universe converges with the labour and materiality of experimental processes. Through its exploration, the film highlights the collaborative frameworks humans have created to understand the nature of matter.

In **We aren't able to prove that just yet, but we know it's out there...** (2018, 13'50"), **Yu-Chen Wang** focuses on CERN's Bubble Chamber experiments of the 1960s. Drawing from photographic archives and interviews with physicists and laboratory staff, the film weaves the visual abstraction of the tracks of short-lived subatomic particles with the intense labour of individuals interpreting these traces.

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Other works draw inspiration from quantum phenomena such as entanglement, non-linear time, and indeterminacy. These principles serve as a foundation for navigating multiple worldviews, challenging dominant paradigms of knowledge and their claims to universality. By engaging with speculative fiction and ancestral wisdoms, the works open spaces for imagining pluralistic frameworks of coexistence.

Patricia Domínguez's *Three Moons Below (Tres Lunas Más Abajo)* (2023-2024, 53'02") follows the journey of the protagonist and her robotic bird companion on their search to reconnect with their 'entangled particle'. CERN's physics experiments, astronomical observatories in the Atacama Desert, and ancient petroglyphs serve as portals that transport them through otherworldly realities. Consulting with mystical beings and acquiring the abilities of celestial antennas and particle detectors, they explore a universe that advocates for forming connections among all living things, machines, and other entities to develop supportive ways of co-existing.

In **Black Quantum Futurism's *Write No History*** (2021, 15'34"), The Temporal Disruptors, an ancient Secret Society of Black scientists, healers, and writers spread out across time in the relative past, present, future at one of their meeting lodges, the Hatfield House in Philadelphia. Through found and archival footage, the protagonists perform rituals to bury and unearth 'quantum time capsules', which contain tools, maps, clocks and codes that serve as technologies to recover erased histories and reclaim temporal landscapes.

Preludio Cuántico (Quantum Prelude) (2022, 29'51") by **Tania Candiani** by Tania Candiani is a sound action for voices and instruments that intertwines different paradigms of understanding life, from ancestral Indigenous cosmogonies to quantum physics. It is situated at UNAM's Espacio Escultórico in Mexico City, where musicians orchestrate their sounds as a living score in the megalithic monument. The piece draws a parallel between the Espacio Escultórico and CERN's Large Hadron Collider, creating a striking audiovisual narrative that includes archival images of early particle detectors from CERN.

Finally, the programme delves into the boundaries of perception, orientation, and reality, presenting films that navigate disorienting landscapes where natural or virtual phenomena disrupt the senses.

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In **Rosa Menkman's Whiteout** (2021, 16'53"), the viewer is plunged into the disorienting experience of a snowstorm on a mountainous hike. As the protagonist loses her physical sensations and sense of space, she navigates a world devoid of conventional reference points. Here, a dimensionless void becomes an arena for reimagining space, perception, and consciousness. The absence of a clear horizon reveals layered realities, where movement carves out new axes of orientation and unfolds alternative landscapes in the wanderer's mind.

The point of departure of **Somnium** (2011, 19'15") by **Rosa Barba** is a short story by astronomer Johannes Kepler. Although framed as a dream, this tale of a lunar voyage was devised to validate his radical thesis of a heliocentric universe. Borrowing Kepler's title in tribute, Barba has drawn upon both his tale and his achievement in establishing a new ontology of vision. Recorded in 16mm film on a site planned as a future harbour, the surreal, strange and uninhabited landscape captures the science-fiction tone of Kepler's story. The boundaries between reality and fiction resolve into the poetic language of the film's narrative.

Participants

Luis Álvarez-Gaumé is a Spanish theoretical physicist. Since 2016, Álvarez-Gaumé is the director of the Simons Center for Geometry and Physics at Stony Brook. Dr. Álvarez-Gaumé received his PhD from Stony Brook in 1981. After having faculty positions at Harvard and Boston University, Luis became a senior staff member of the Theory Group at CERN in 1988. He was long-time Department Head of the Theory Group.

Maria Arnal is a Barcelona-based artist, singer, composer, known for blending avant-garde pop, electronics, and traditional polyphonic music. In recent years, she has created AI-powered digital instruments inspired by her voice, experimenting with synthetic voice models such as timbre transfer and text-tosing as an artist-in-residence at the Barcelona Supercomputing Center.

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Holly Corfield Carr is a poet based in Bristol, UK. Her writing explores the spaces and languages of holeyness, from caves to the pigment pit of a fly's eye. Previous work has won the Frieze Writer's Prize and the Society of Authors' Eric Gregory Award and she has made poems, books and performances for the BBC, the Hayward Gallery and the National Trust. She is a Lecturer in Poetry at the University of East Anglia.

Honor Harger is a curator from New Zealand with a keen interest in the cultural impact of scientific ideas. Since 2014, she has been the Director of ArtScience Museum at Marina Bay Sands in Singapore and is now also Vice President of Attractions at Marina Bay Sands. The museum has hosted exhibitions by renowned contemporary artists such as Theo Jansen and Olafur Eliasson. It also explores scientific themes like particle physics and quantum mechanics.

Rasheedah Phillips is a queer housing advocate, writer, and artist, who uses web-based projects, zines, short films, archival practices, experimental non-fiction, speculative fiction, performance, installation and creative research to explore the construct of time, temporalities, and community futurisms through a Black futurist cultural lens and experience. As part of the collective Black Quantum Futurism, Phillips has been awarded Arts at CERN's Collide Award.

Shuddhabrata Sengupta is an artist and curator with the Raqs Media Collective, based in Delhi, India. Sengupta co-founded Raqs with Monica Narula and Jeebesh Bagchi in 1992. The hybrid practice of Raqs occupies a ground that is expressively poetic while being rigorously analytical. Raqs follows its self-declared imperative of 'kinetic contemplation' to produce a trajectory that is restless in terms of the forms and methods (sound, image, video, text, object, gesture).

Jalal Toufic is a thinker and a mortal to death. He was born in 1962 in Beirut or Baghdad and died before dying in 1989 in Evanston, Illinois. He is the author of over ten books, over twenty films and videos. These include essay and conceptual films, short films, feature-length films, and "inhumanely" long films (72 hours, 50 hours); films that he shot and films in which all the images are from works by other filmmakers.

Arts at CERN

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