

# OPEN CALL ARTWORK EXHIBITION TO THE EDGE OF TIME

BANG! Big Bang City Festival Leuven - 16 October 2021 till 30 January 2022

## Commitment

- To work closely and to interact with engineering students and scientists from KU Leuven Campus Group T and with Professor Thomas Hertog from KU Leuven – Department of Physics and Astronomy, under the supervision of Professor Luc Geurts to devise and deliver a new publicly accessible artwork for the exhibition *To the Edge of Time* in KU Leuven Libraries.
- To produce and deliver the artwork.

We are inviting an artist to explore the theme of gravitational waves, from the mysterious physics of black holes to the exciting engineering challenges to decipher these cosmic wave patterns when they pass through planet Earth.

Artists are invited to consider subversive, creative, alternative, humorous or tactical methods inspired by this theme and are encouraged to mine into the broader social and cultural questions that arise from humanity's exploration of the cosmos.

We are looking for depth of thought regarding how advances in technology impact our understanding of the universe.

We will consider responses in any media and any artistic form that is deliverable within the budget.

## Context

In October 2021 *BANG! Big Bang City Festival Leuven* commences across the Belgian city of Leuven. Organised by KU[N]ST Leuven the festival theme pays tribute to one of the city's most renowned professors, the scientist and priest Georges Lemaître, founding father of the Big Bang Theory.

At the heart of the festival are two 'sister' exhibitions *Imagining the Universe* at M - Leuven, and *To the Edge of Time* at KU Leuven Libraries which will take place from 22 October 2021 to 16 January 2022.

Along with wider events and activities programmes, they will consider our abiding wonder and ongoing quest for insights into the origin of the universe and our place as humans in that immeasurable system. Together, they will look at how, across time, space and cultures, broad answers to diverse, fundamental questions surrounding our origins have been devised, expressed, depicted, embraced and rejected.

*Imagining the Universe*, curated by Professor Jan Van der Stock (KU Leuven) for M - Leuven, presents the imagining of the universe in the visual arts and the process of thinking from Antiquity up to the 19th century. Its focus is on the European Middle Ages and the early modern period.

*To the Edge of Time* is co-curated by Hannah Redler Hawes (independent curator) and Professor Thomas Hertog (KU Leuven). Its narrative is based on the scientific discovery story of the Big Bang theory, one of the biggest revolutions in science of the 20<sup>th</sup> century. This rich scientific discovery story is told from an interdisciplinary perspective, working with

modern and contemporary art to create a lyrical multi-sensory critically-engaged and audience-focused narrative. The exhibition starts with an exploration of the pioneering works of Albert Einstein and Georges Lemaître's discovery of the universe's expansion. It includes works on paper, immersive light, sound and data installation, sculpture and astronomers' stunning observations of the universe, taking us ever deeper in space and backwards in time. It leads us ultimately to the latest insights and extensions of the Big Bang theory by Stephen Hawking and his contemporaries. As such this is the first exhibition worldwide to put Hawking's ground-breaking work in its broader historical context, demonstrating the ways in which Lemaître's work bridges Einstein and Hawking. This story reveals the powerful arc that binds generations of scientists wondering, searching and working towards an ever-deeper conceptualisation of the cosmos, accompanied by powerful conceptual and critical responses of artists.

Notions of time, space, dimensions and geometry, the universe's extent, the conditions for our existence, our processes of perception, illusion and truth and the unfathomable nature of reality itself are explored. The combination of scientific objects and stories alongside art works formally, playfully and critically responding to the big bang theory, or interrogating, challenging or decentering its findings and substance reveal broad dimensions of modern human exploration of the universe.

The exhibition is divided into three sections. Each includes scientific objects and stories and stunning, lyrical, thought-provoking and awe-inspiring art works in a wide variety of media by International artists from Africa, Asia, Europe, and North America.

For more information about the exhibition, see enclosure 1.

### **Commission theme**

The artist is invited to respond to themes in the final and third part of the exhibition *To the Edge of Time*.

This final part is concerned with the latest ways to explore and think about the universe. Specifically, a new window onto the universe has opened up in recent years through the detection of gravitational waves. Gravitational waves are ripples of the fabric of space, once predicted by Albert Einstein, generated when distant black holes collide. Gravitational waves propagate through the universe at the speed of light. As ripples of space, gravitational waves from black holes cause minute changes of 'length' when they pass through planet Earth - no more than the width of a proton on a scale of several kilometres. In the last two decades, a dedicated trio of astonishing L-shaped observatories has been constructed to detect gravitational waves. Their first detection in September 2015 was awarded with the physics Nobel Prize in 2016.

The artist is invited to explore this theme of gravitational wave detection, viewed broadly, from the physics of black holes to the numerous engineering challenges to decipher the wave patterns when they pass through our planet.

### **Artist's role**

In addition to their personal development and studio time, the selected artist will be expected to commit a minimum of 10 days to working directly with the engineering students co-developing and sharing ideas, supporting and benefiting from the students creative problem-solving and to subsequently create the new artwork.

### **Ownership**

The ownership in the work will be held by the artist but will be credited as “created in collaboration with [names of students] and Professor Luc Geurts of KU Leuven - Campus Group T, and Professor Thomas Hertog of KU Leuven – Department of Physics and Astronomy”.

### Personal qualities

- Collaborative: be an active member of a lab-based team
- Proactive and positive: working to create an audience-focused artwork
- Open: able to work in an open and transparent way, and open to new knowledge and experiences
- Inspiring: challenging received opinion and assumptions, bringing new perspectives
- Creative leadership: ability to communicate a vision, identify strategies to achieve the vision and translate the vision into specific targets and tasks; confident in decision making and able to work with the academic team to manage any challenges effectively

### How to Apply

**We are inviting expressions of interest and not fully formed proposals.** Following receipt of expressions of interest (EOI), three to five shortlisted artists will be interviewed. Up to three artists will then be invited to create a proposal.

Expressions of Interest must be submitted to [lien.dekeukelaere@kunstleuven.be](mailto:lien.dekeukelaere@kunstleuven.be) and include:

- name of artist or artist group (more than one artist may apply together as one artist but all fees, travel and production grants will remain the same)
- three examples of work submitted as direct URLs with a short description
- a short text describing interest in the subject area and initial thoughts (no more than 500 words)

**Deadline for Expressions of Interest:** 11 December 2020, 23:59 CET

### Schedule

- 11 December 2020: deadline for expressions of interest (23.59 CET)
- Week of 14 December 2020 (date to be confirmed): artist interviews and invitations for proposals issued to shortlist
- January 2021: recruitment of students

### Budget

€10,000 is available for an artist to spend a minimum of 10 days in Leuven to

- be an active member of the selected student team under the supervision of Professor Luc Geurts
- personally research the theme
- create a concept for a new publicly accessible artwork
- and following/alongside this to produce and deliver the new publicly accessible artwork in collaboration with the students and by the end of August 2021

The budget breakdown is flexible but an example of a workable breakdown is as follows:

€2000.00 artists fee

€3000.00 minimum 10 days in lab working with students

€3000.00 further production fee  
€1000.00 travel and subsistence  
€1000.00 production contingency  
**Total: €10,000.00**

The budget will be supplemented by a production grant from the department to pay for student time and access to substantial additional materials and equipment in the engineering labs.

### **Eligibility**

The call is open to all Belgium-based artists aged 18 or over, with more than three years' experience of professional practice. **We actively encourage applications from groups who are currently underrepresented within our sector.** These are artists from black, Asian and other minority ethnic groups, artists who identify as LGBTQ, and deaf, partially sighted and disabled artists.

### **About KU[N]ST Leuven**

Founded in 2012, KU[N]ST Leuven organises major cultural city-wide festivals in collaboration with the University of Leuven (KU Leuven), M - Leuven and multiple other partners. Each chosen theme is thoroughly examined through various disciplines and perspectives and offers a broad cultural programme which includes theatre, dance, concert's, exhibitions, art in public spaces, workshops, lectures, urban exploration, guided tours, events. More information at [www.kunstleuven.be](http://www.kunstleuven.be).

### **About KU Leuven - Campus Group T and Professor Luc Geurts**

Students at KU Leuven - Campus Group T gain engineering expertise at a renowned campus of KU Leuven, but they also learn and experience how to be creative in your thinking and in your endeavours. They develop distinct enterprising skills and insight into the systems that influence nature, culture and society. 'Beyond Engineering': it is the art of no longer seeing things as separate, but rather as a part of a whole system where everything is connected. Just as in the real world.

Luc Geurts is a member of the e-Media Research Lab: 'We investigate, develop and implement novel techniques to enhance the human condition with embodied media. Our systems contain sensors that capture input from a human user or information from the environment, algorithms that analyze these data, and intelligent systems with actuators that generate meaningful output. Central to our research questions is how humans will perceive this output, and how they respond to it. Often, we implement fully interactive systems that are fun and engaging, and at the same time serve a serious purpose. Our human-centered systems are applied in the domains of health care, learning, arts and entertainment. The e-Media Research Lab brings together expertise from different domains such as electrical engineering, signal processing, data analysis, machine learning, computer sciences, software engineering, social sciences and user experience design.'

Enclosure 1:

**Overview To the Edge of Time  
University Library KU Leuven, Belgium  
October 22 2021 – January 16 2022**

In October 2021 *BANG! Big Bang City Festival Leuven* commences across the Belgian city of Leuven. Organised by KU[N]ST Leuven, the festival theme pays tribute to one of the city's most renowned professors, the scientist and priest Georges Lemaître, founding father of the Big Bang Theory.

At the heart of the festival are two 'sister' exhibitions *Imagining the Universe (Part I)* at M Museum, Leuven and *To the Edge of Time (Part II)* at the University Library of KU Leuven.

Along with wider events and activities programmes, they will consider our abiding wonder and ongoing quest for insights into the origin of the universe and our place as humans in that immeasurable system. Together, they will look at how, across time, space and cultures, broad answers to diverse, fundamental questions surrounding our origins have been devised, expressed, depicted, embraced and rejected.

Part one, curated by Professor Jan Van der Stock for M Leuven, presents the Imagining of the universe in the visual arts and the process is of thinking from Antiquity up to the 19th century. Its focus is on the European Middle Ages and the early modern period.

Part two, *To the Edge of Time* is co-curated by Hannah Redler Hawes and Professor Thomas Hertog. Its narrative is based on the scientific discovery story of the big bang theory, one of the biggest revolutions in science of the 20<sup>th</sup> century. This rich scientific discovery story is told from an inter-disciplinary perspective, working with modern and contemporary art to create a lyrical multi-sensory critically-engaged and audience-focused narrative. The exhibition starts with an exploration of the pioneering works of Albert Einstein and Georges Lemaître's discovery of the universe's expansion. It includes works on paper, immersive light, sound and data installation, sculpture and astronomers' stunning observations of the universe, taking us ever deeper in space and backwards in time. It leads us ultimately to the latest insights and extensions of the big bang theory by Stephen Hawking and his contemporaries. As such this is the first exhibition worldwide to put Hawking's groundbreaking work in its broader historical context, demonstrating the ways in which Lemaître's work bridges Einstein and Hawking. This story reveals the powerful arc that binds generations of scientists wondering, searching and working towards an ever-deeper conceptualisation of the cosmos, accompanied by powerful conceptual and critical responses of artists.

Notions of time, space, dimensions and geometry, the universe's extent, the conditions for our existence, our processes of perception, illusion and truth and the unfathomable nature of reality itself are explored. The combination of scientific objects and stories alongside art works formally, playfully and critically responding to the big bang theory, or interrogating, challenging or decentering its findings and substance reveal broad dimensions of modern human exploration of the universe.

## ***To the Edge of Time - Exhibition structure***

The exhibition is divided into 3 sections. Each includes scientific objects and stories and stunning, lyrical, thought-provoking and awe-inspiring art works in a wide variety of media by International artists from Africa, Asia, Europe, and North America

### **PART I**

Part I looks at ideas central to the birth of modern cosmology, starting with Albert Einstein's pioneering explorations in 1917 to the development of the big bang theory up to the mid 20th century. Einstein's 1915 theory of relativity forms the basis of modern cosmology. It profoundly transformed Newton's view of space, time and gravity, and brings questions about the universe as a whole from the realm of mythology into the realm of science. George Lemaître's work builds on Einstein's brilliance but reveals 'gaps' in Einstein's thinking. Lemaître leads us an entirely new scientific vision, of an expanding universe with an origin in a big bang. Artists explore notions of infinity and geometry, the warping and bending of space and time, visible and invisible light spectra, notions of representation and knowledge acquisition structures and our relationship with numbers, through works on paper, sculpture, light installation and a surprising glitter ball.

### **PART II**

Part II looks at our increasingly sophisticated means of seeing and imaging the universe in the mid-late 20<sup>th</sup> century. It includes the 'golden age of discovery' in cosmology in the 1990s, a period where astronomical observations from satellites, the Hubble Space Telescope and sophisticated ground-based instruments transformed our image of the universe. It is a time of proof of key concepts, surprises and further mysteries. We are also introduced to Stephen Hawking's work which argued that simply the existence of cosmic microwave background radiation is enough to predict the existence of a singularity, whereby if we were to go back to the beginning of measurable time, 13.8 billion years ago – there would be no time, no space, no universe. Nothing. Here we have to question: has physics lead to a violation of itself, to a state of no physics? Artists playfully explore the laws of physics, notions of beginning and end, the fuzzy boundary between physics and metaphysics, personal and collective discovery, alternative and human-centred forms of measurement, consciousness and the construction and dissemination of scientific data through mixed media installation, mud, electronics, painting and classic cartoons.

### **PART III**

PART III takes us into the 21<sup>st</sup> century. It exhibits some of the latest ideas at the cutting-edge of cosmology, in a critical interaction with contemporary art works, which challenge the objectivity of modern Western science, looking for new approaches and processes which might take us beyond the limits of our known structures and apparatus. Contemporary cosmology challenges our conception of reality in its most basic form. We are introduced to the mindboggling concepts behind quantum theories, the universe as a hologram, the multiverse and the bold hypothesis of Hawking and Hertog that we create the universe as much as it creates us. We also chart the transition from the age-old imaging of the universe through the observation of light, to listening to the universe with gravitational waves, thereby uncovering unexplored regions that are dark, such as black holes, or regions where light can't penetrate.

Contemporary cosmology provides a new twist on some of the profound existential questions that have proven an endless source of wonder throughout the ages. It confronts us with our place as humans in the universe in a novel and penetrating way. Is the universe designed to bring forth life? Are we, as humans, the universe's means of understanding itself? Or are we but chemical scum on an average planet orbiting an ordinary star in a pointless dark cosmos? Artists' works respond to these and to the processes of science and exploration, the role of imagination in constructing and navigating reality, time and our

embodied experience in 3-dimensions, through inflatable observatories, digital imaging, painting, film, photography, drawing and intense immersive audio-visual sound experiences.