

Cool Physics Days

@ Ghent, Belgium

A series of public events organized on the occasion of EPSHEP2019 at Ghent University, Jul. 2019



**GHENT
UNIVERSITY**

Michael Tytgat

Cool Physics Days

Cool Physics Days was a series of outreach/public events on the occasion of the big EPS-HEP2019 conference in Ghent, Belgium in July 2019

Aim was to reach a wide audience in several different ways, through different media

- ❑ Art & Science events in collaboration with art@CMS
- ❑ Central public event in collaboration with ORIGIN (virtual visits to experiments, interactive exhibition, physics show)
- ❑ Music & Science event in collaboration with a symphonic orchestra
- ❑ Science Movie event (public screening of a documentary film, with introduction and Q&A session) in collaboration with a public cinema
- ❑ Special edition of the Flemish *EOS Wetenschap* popular science magazine

Cool Physics Days



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Main event

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Partners & Team

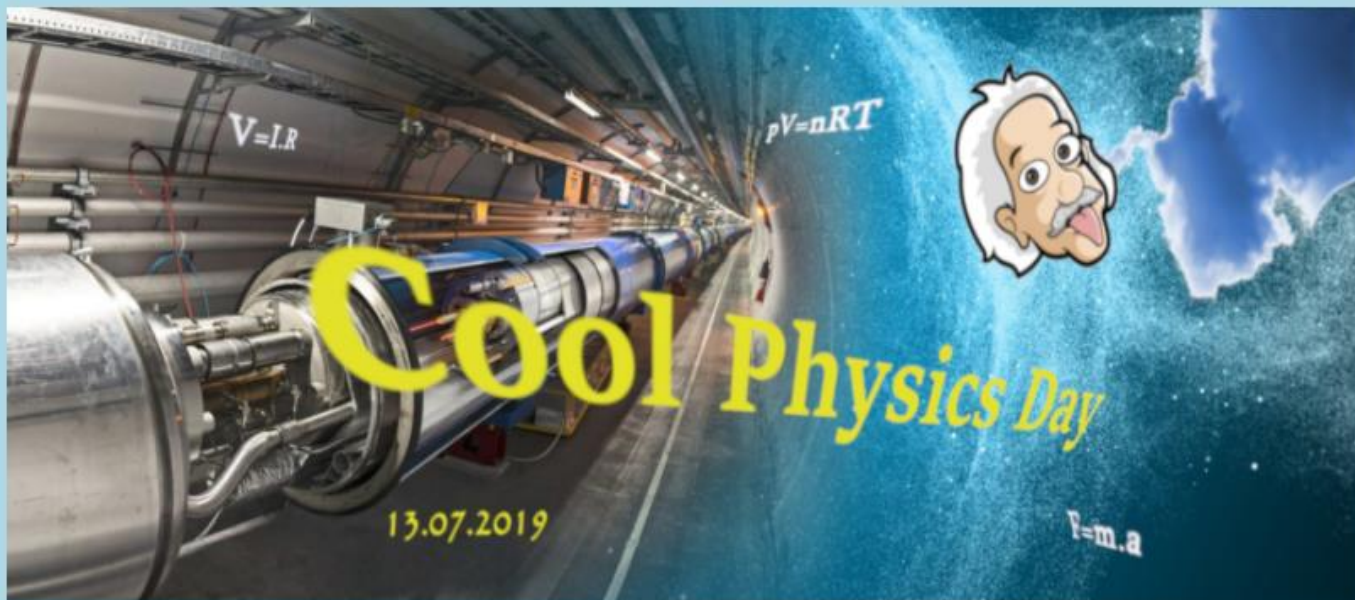
art@CMS

The Most Unknown

Contact us

Facebook

✉ Email



From July 10 to 17, a few hundred scientists from around the world will gather in Ghent to attend the **European Physical Society Conference on High Energy Physics**. This international conference is organized every two years, each time at a different location in Europe, and reviews the latest developments in Particle Physics and related fields. On the occasion of the 2019 edition of this conference in Ghent, a number of public events are scheduled, including our Cool Physics Day, a science movie evening and our science-and-art project. Welcome to the fascinating world of physics !

Our main **Cool Physics Day** event will teach you the basics of Particle Physics in a science exhibition, will amaze you in a spectacular physics show and will link you up to some of today's most advanced experiments during our virtual visits. Think quarks, Higgs bosons, CERN, Large Hadron Collider, gravitational waves and so much more !

Find out more details on this event below, and follow visit our **Cool Physics Day Facebook event page** for the latest updates.

#CoolPhysicsDays #OriginGhent



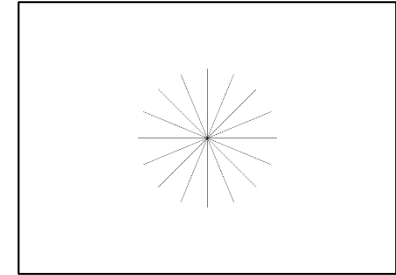
Physics Exhibition

<https://coolphysicsday.ugent.be/en/index.html>

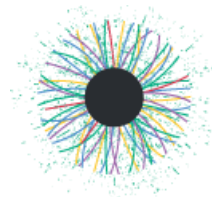
art@CMS related project, started in 2017 already (i.e. ~2 years of preparation) in collaboration with Michael Hoch et al.

2 big parts of the project:

- ❑ **Harbinger**, i.e. a local project in Ghent, in collaboration with KASK School of Arts (artistic researchers) & UGent/HoGent Curatorial Studies group
- ❑ **ORIGIN Poetics 2019**, i.e. a public exhibition created by international artists related to art@CMS



<https://harbinger.schoolofarts.be/>



art@CMS

Art & Science - Harbinger

Project started with artistic researchers (i.e. staff lecturers and researchers) from KASK in 2017

For the final event/exhibition also the Curatorial Studies group (students) joined in 2018; Harbinger was their final graduation exhibition/project

2 working visits of 1 week each to CERN (Jan. 2018 & Feb. 2019)

- Guided tours around CERN and experiments
- Seminars
- Discussion sessions

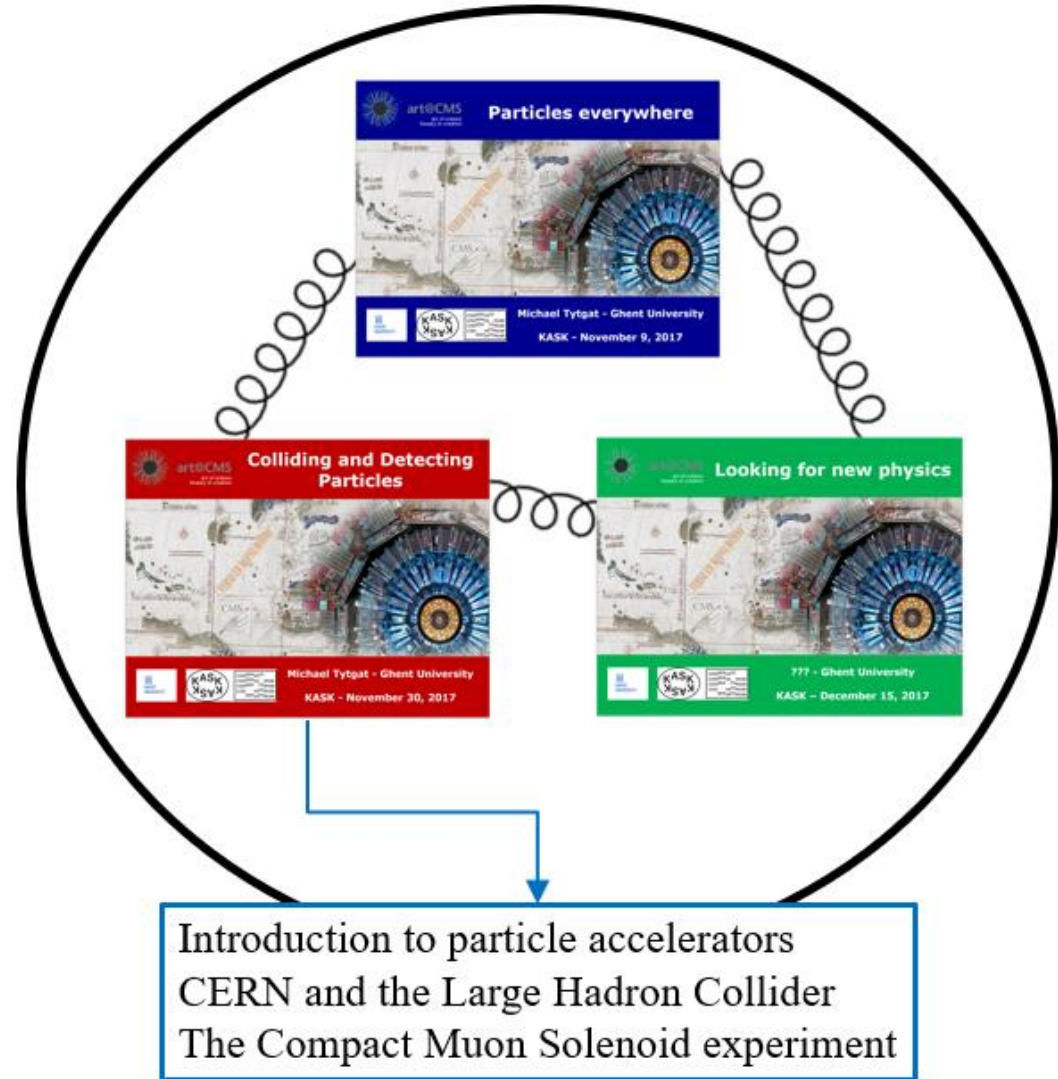


Art & Science - Harbinger



Initial set of lectures given to KASK artistic researchers & Curatorial studies group before their visits to CERN

- ❑ Introduction to particle physics
- ❑ Particle accelerators, CERN, CMS
- ❑ New physics searches



Art & Science – Final Program

Program

| | | |
|--|---|-------------------------------------|
| Saturday, May 25, 2019 - 23:00 | Discoteca Clandestina | Kunsthal Gent |
| Harbinger I: First Signs | | |
| Friday, May 31, 2019, 19:00 | Sci-art: framing arts and sciences | Kunsthal Gent |
| Friday, June 7, 2019, 19:00 | Going short: prediction as debt & data tracing maps to the future | Kunsthal Gent |
| Friday, June 14, 2019, 19:00 | Beyond matter: consciousness on the horizon | Kunsthal Gent |
| Harbinger II: Subtle Collisions | | |
| Friday, 5 July, 2019, 17:00-22:00 | Exhibition opening | UGent Botanical Garden |
| July 6-17, 2019, 10:00-18:00 | Exhibition | UGent Botanical Garden |
| ORIGIN Poetics 2019 | | |
| July 11-17, 2019 | Exhibition | KASK & Conservatorium - Zwarte Zaal |



Harbinger

Subtle Collisions

WORKS BY

- Véronique Béland
- Joris Blanchaert
- Maria Boto & Kristel Peters (Bio lab)
- Michiel De Cleen
- Edith Delyndt
- Elias Heurninck
- Nicolas Lames
- Ives Maes
- Daan Peans
- Other Women's flower
- Pratchaya Phinithong
- Leticia Ramos
- Josef Rekveld
- Dominique Somers
- Toddé (Delphine VVibaux & Tom Rider)
- Chantal Van Rijt
- Ian Wilson

05.07 > Opening > 5 – 10 pm
06.07 – 17.07 > 9 am – 6 pm
Ghent University Botanical Garden

HARBINGER, SUBTLE COLLISIONS IS AN EXHIBITION. FULL PROGRAM ON WWW.HARBINGER.WEB

Art & Science - Harbinger

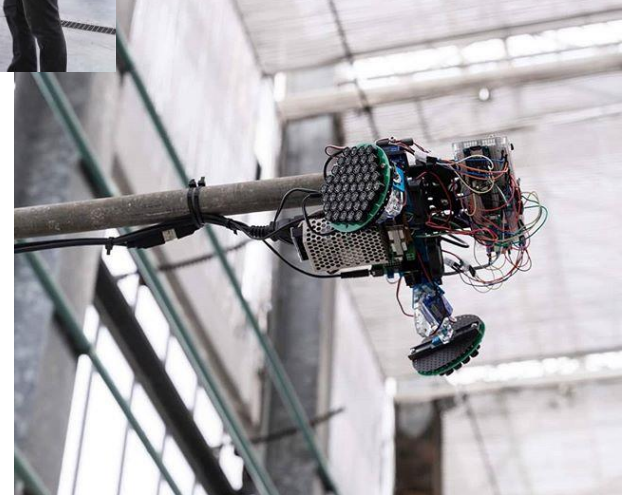
Initial events & workshops

- Discoteca Clandestina opening event
- Seminars & panel discussion sessions
- KASK Biocolor Lab workshop



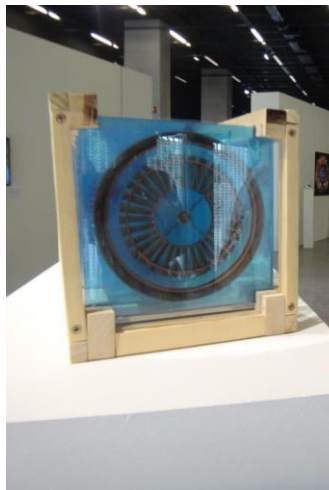
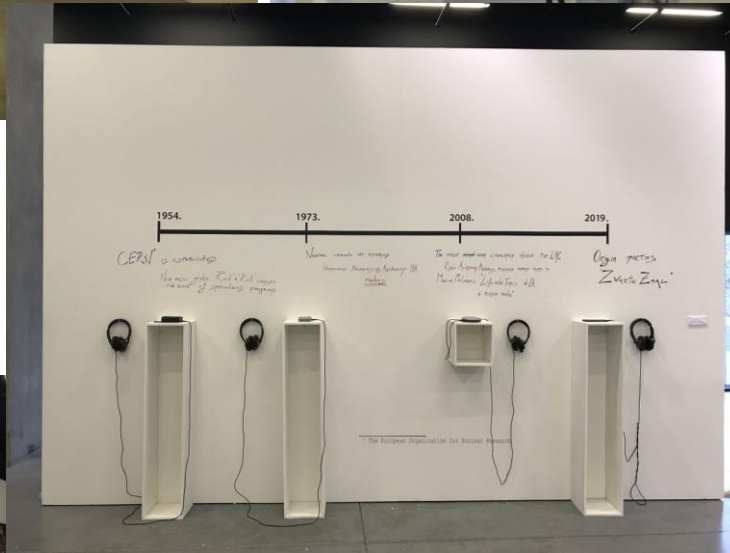
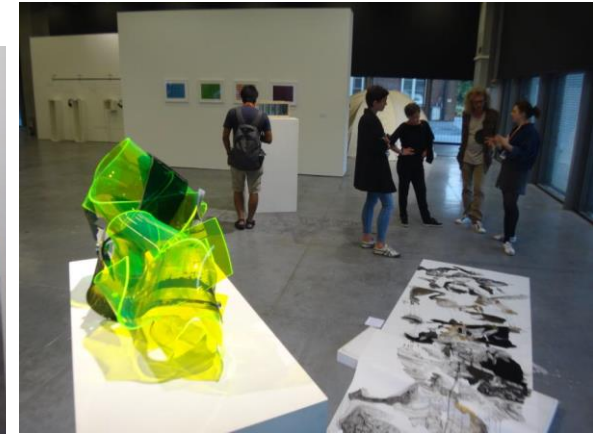
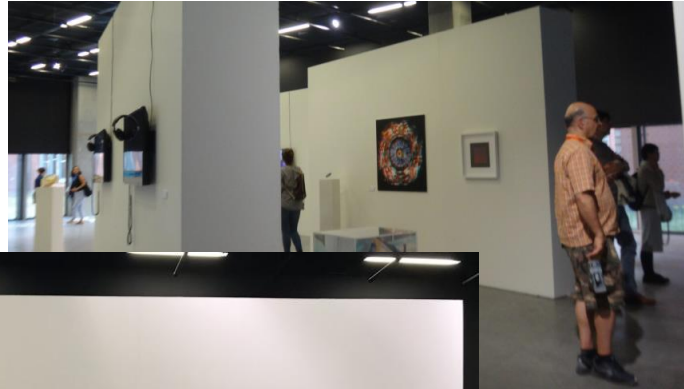
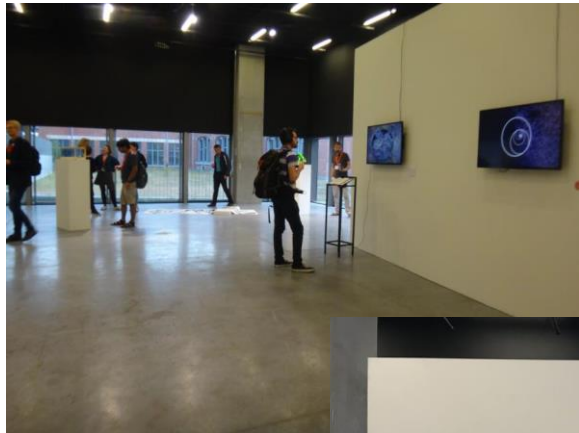
Art & Science – Harbinger

Final exhibition @ UGent Botanical Garden



https://www.instagram.com/harbinger_art_and_science/

Art & Science – ORIGIN Poetics 2019



Art & Science – Harbinger Publication



| | | | |
|---------|---|-----------|---|
| 4 | CMS Constellations (2019) Elias Heuinck | 64 – 69 | Negotiating the unknown Interview with James Beacham by Peter Lemmens and Laila Melchior |
| | (+ pages: 5, 8, 10, 12, 14, 22, 24, 36, 40, 44, 46, 52, 62, 66, 68, 70, 76, 82, 84, 90, 94, 98, 100, 104, 112, 120, 130, 132, 140) | 72 – 75 | Dominique Somers |
| 8 – 14 | Introduction Lieselotte Egtberts and Laila Melchior | 78 | All Memory is Theft (2019 – 2020) Johan Grimonprez |
| 15 | Juste des mots: il n'y a rien à voir là-bas (2019) Véronique Béland | 81 – 83 | Ways to organize the world (2016) Nicolás Lamas |
| | (+ pages: 23, 37, 47, 55, 63, 71, 77, 85, 99, 113, 121, 127, 133, 145) | 25 – 35 | Reference Guide (2019) Michiel de Cleene |
| 16 – 21 | EINSTEIN meets MAGRITTE: The Scholar, Terpsichore and the Barfly (1999) Diederik Aerts, CLEA | 91 – 97 | #71.1 (2019) Joost Rekveld |
| 25 – 35 | Cern #1–10 (2019) Jan Kempenaers Text by Michiel Van Damme | 99 – 103 | Ocruxaves Pesunica (2016) Paolo Danese aka Turbokrapfen (Discoteca Clandestina) |
| 30 | Other Women's Flowers (+ pages: 42, 50, 54, 60, 80, 96, 106, 118, 128, 136) | 106 – 111 | Le Palais de l'Équilibre (Expo.02, Switzerland, 2002) (2019) CERN Globe of Science and Innovation (Expo.02, Switzerland, 2002) (2019) Expo 0.2 Study 1 (2019) Expo 0.2 Study 2 (2019) Expo 0.2 Study 3 (2019) Ives Maes |
| 38 | RE:wire (2019 – 2020) Joris Blanckaert | 114 – 119 | The Color Biolab (2016 – 2019) María Boto Ordóñez and Kristel Peters |
| 41– 45 | Perhaps it might be said rightly... (2009) Daan Paans | 122 – 126 | Future through the belly Interview with Marjan Doom by Laila Melchior |
| 48 | IOI (2018) Chantal van Rijt | 129 – 131 | Invitation (1976) There Was a Discussion in New York City (1968) Ian Wilson |
| 51 | Earthquake Simulation Machine (2016) Leticia Ramos | 134 – 141 | Particles everywhere (2018) Michael Tytgat |
| 53 | Speculation and planning (2019) Liam Gillick | 142 | Selection of quotes: short biographies Other Women's Flowers |
| 56 – 61 | Recherches d'atelier (2016 – 2018) Brasser le bruit du monde (2019) Des courants où le temps pèse moins lourd (2017) Todèl (Tom Rider and Delphine Wibaux) | 146 | Colophon |

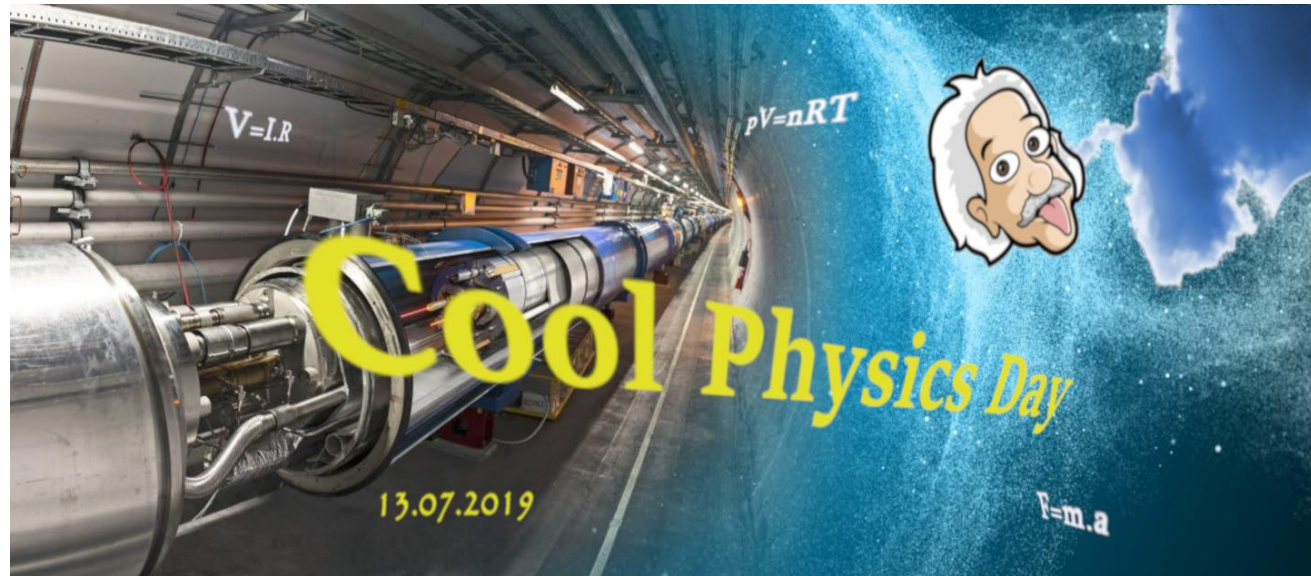
Prepared by
Curatorial Studies
group as part of their
graduation project

Central event

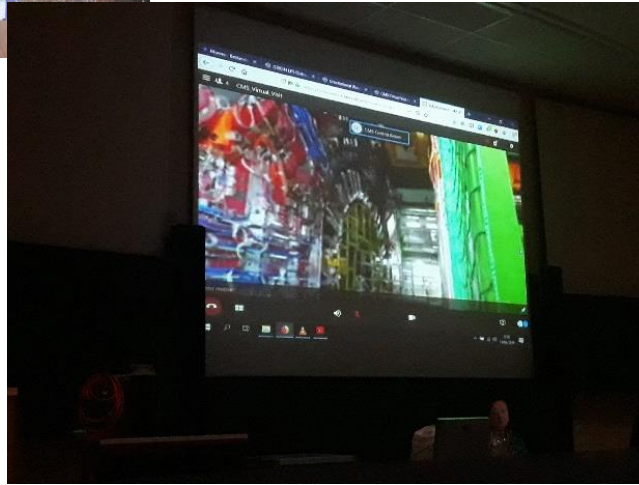
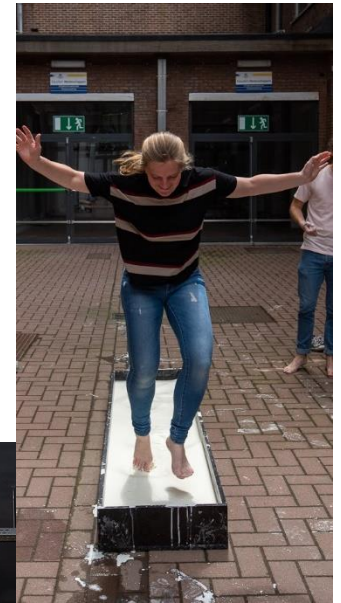
A Saturday afternoon event, organized in collaboration with ORIGIN:

- ❑ Virtual visits to VIRGO (1st ever) and CMS experiment
- ❑ Physics-on-stage show
- ❑ Science exhibition with contributions from all 4 LHC experiments, LIGO/VIRGO, muographers + hands-on setups

Received about
500 visitors



Central event – exhibition & virt. visits



Central event – physics-on-stage



Music & Science concert

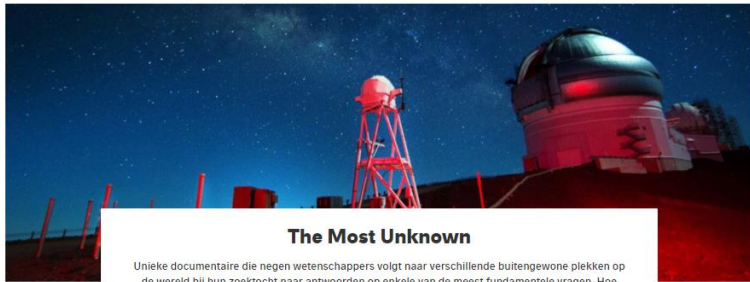
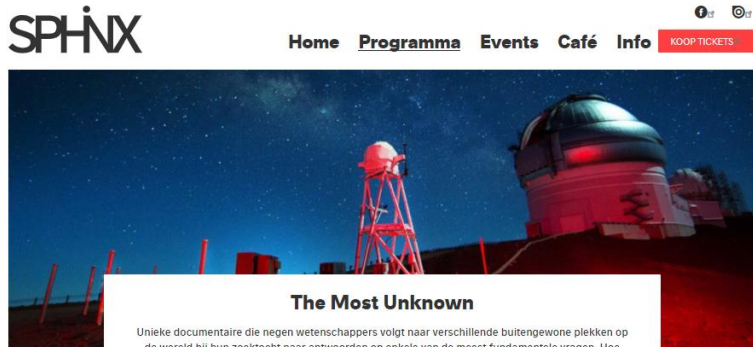
Concert arranged with Continuo, the UGent symphonic orchestra, bringing a customized music & science program

- Charles Ives - The Unanswered Question
- George Antheil - Capital of the World Suite
- Alexander Borodin – In the Steppes of Central Asia
- Alexander Borodin - Polovtsian dances from Prince Igor
- **Joris Blanckaert - Supersymmetry** (composed especially for the conference, in the framework of our art@CMS project)



Public screening of *The Most Unknown* documentary film

- Screening in the Sphinx public cinema in Ghent
- Intro and Q&A by two main characters featured in the film, i.e. Belgian neurologist Axel Cleeremans and Italian neutrino physicist Davide D'Angelo (conference participant)



The Most Unknown

Unieke documentaire die negen wetenschappers volgt naar verschillende buitengewone plekken op de wereld bij hun zoektocht naar antwoorden op enkele van de meest fundamentele vragen. Hoe begon het leven? Wat is tijd? Wat is bewustzijn? Hoeveel weten we eigenlijk?

BEKIJK DE TRAILER

Door researchers uit verschillende onderzoeksvelden voor het eerst samen in een nieuw wereldje te droppen, worden de grenzen van wat wetenschapstheorie tot nu toe was, verlegd. Wat hieruit voortvloeit is een krachtige reminder dat de vragen die niet te beantwoorden vallen, misschien wel de meest waardevolle zijn om te stellen.

regie
Ian Cheney
productie
VS 2018
versie
originele versie
taal
Engels
ondertitels
geen
duur
1u32min
imdb
Bekijk de filmficheer

'The Most Unknown' werd geregisseerd door Emmygenomineerde filmmaker Ian Cheney ('The Search for General Tso', 'The City Dark') en geadviseerd door wereldbekende filmmaker Werner Herzog ('The Wrath of God', 'Grizzly Man'). De film werpt een ambitieuze blik op een zijde van wetenschap die nog nooit eerder belicht werd op het witte doek.

De voorstelling wordt bijgewoond door twee van de hoofdrolspelers, de Belgische neurolog Axel Cleeremans en de Italiaanse fysicus Davide D'Angelo. Zij verzorgen een korte inleiding en Q&A na de film. De film is Engels gesproken, er worden geen ondertitels voorzien.

Organisatie: vakgroep fysica en sterrenkunde (UGent) in het kader van het EPS-HEP congres .





The Cylindrical Onion



KVAB

Royal Flemish Academy of Belgium
for Science and the Arts



Jonge Academie

Each year the **Royal Flemish Academy of Belgium for Science and the Arts** and the **Young Academy** gives a **Science Communication Award** in recognition of exceptional science outreach initiatives

In Nov. 2020, Cool Physics Days was among the prize winners (3rd time the award goes to a particle physicist since 2013)

<https://www.kvab.be/nl/prijzen/jaarprijzen-wetenschapscommunicatie>

<https://www.youtube.com/watch?v=53ZF12AA1pE>

Cool Physics Days

7 NOVEMBER, 2020

[The Royal Flemish Academy of Belgium](#) and the Young Academy annually award the "Science Communication Awards" to those scientists who have had exceptional merit in science communication. The CMS member Michael Tytgat was among these awardees for his approach on bringing particle physics to the general public. On the 16th of November 2020 scientists who were very successful in bringing their research to the wider public will be honored with an award at an [online event](#) at Scivil.

In addition, each awardee also has a chance to receive the [Belgian EOS science magazine public award](#); for that, your vote matters, i.e. the more the better!

Michael Tytgat

Ghent University, Belgium.

Project: *Cool Physics Days*

For devising and leading the [Cool Physics Days](#) project. The jury praises the transdisciplinary and interdisciplinary approach to bring a less obvious branch of science (particle physics) to the general public. In all areas, thought was given to reducing barriers and providing insight into the scientific process.



Michael Tytgat

Meet Michael Tytgat!

I am a staff member of the Experimental Particle Physics group at Ghent University in Belgium. My work within CMS began in 2006 with physics analysis related to Supersymmetry searches. Soon after I got involved in the Muon Resistive Plate Chambers (RPC) group, with the RE4 upgrade being the first large Ghent contribution to the CMS detector. In 2009, I also began working on the R&D for the Muon Gas Electron Multiplier (GEM) upgrade. The past years, my main focus continued to be on the Muon RPC & GEM systems, preparing the Phase-2 upgrades.

<https://cylindricalonion.web.cern.ch/blogs/cool-physics-days>

Acknowledgments

A big effort obviously requires
a big team ...

Thanks to



- a lot of UGent, UA, VUB, ULB, UCL physicists & PhD, MSc students
- art@CMS – ORIGIN collaboration – Michael Hoch et al.
 - KASK School of Arts Gent
 - Kunsthal Gent
 - UGent Botanical Garden
- Continuo orchestra
- Sphinx cinema crew
- EOS Wetenschap magazine editorial team