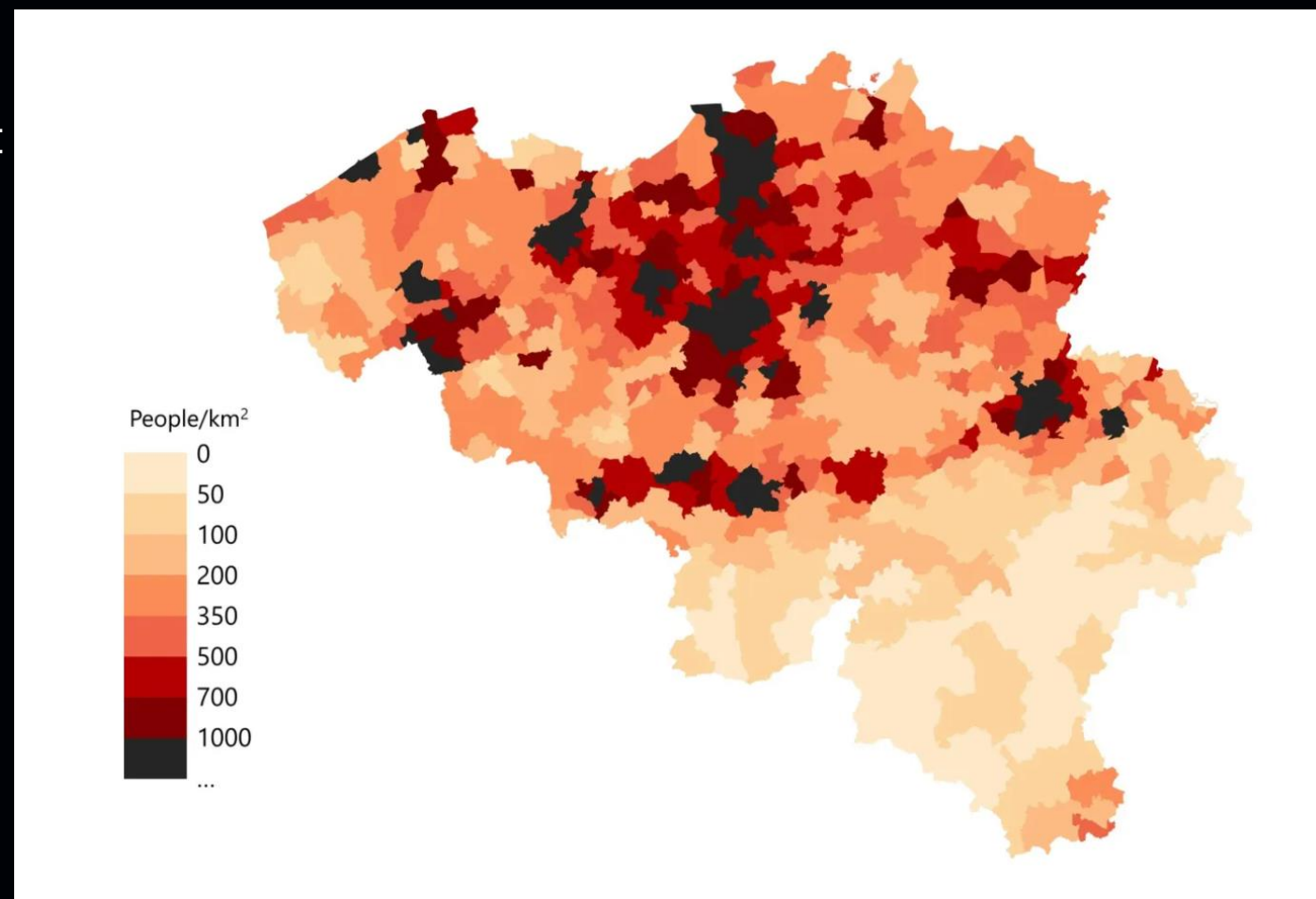
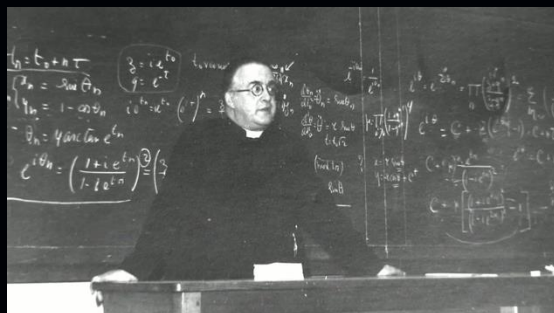


# Belgium in outreach and education for high-energy physics

Gwenhael Wilberts Dewasseige  
on behalf of the Belgian community

# Belgium

- High density of research centers and universities involved in (astro)particle physics
- A recent Nobel Prize laureate - prof. F. Englert
- Impactful history and key researchers :  
Conseils Solvay, prof. Georges Lemaître, prof  
Calculus,...



Consequence: Public is very responsive to E&O activities

As in most of ECFA-related countries:

- Masterclass on particle physics and astroparticle physics
- Visits of schools to universities
- Visits of researchers to schools
- All other traditional activities

> 200 visitors to “Nuit Bleue” at UCLouvain  
 200 visitors to National day of science at VUB  
 > 50 HS students for masterclass / site



# Innovative efforts in Belgium

Arts and Sciences

Cities and Sciences

Citizen Science

Educational programs

Belgian media response

# Innovative efforts in Belgium

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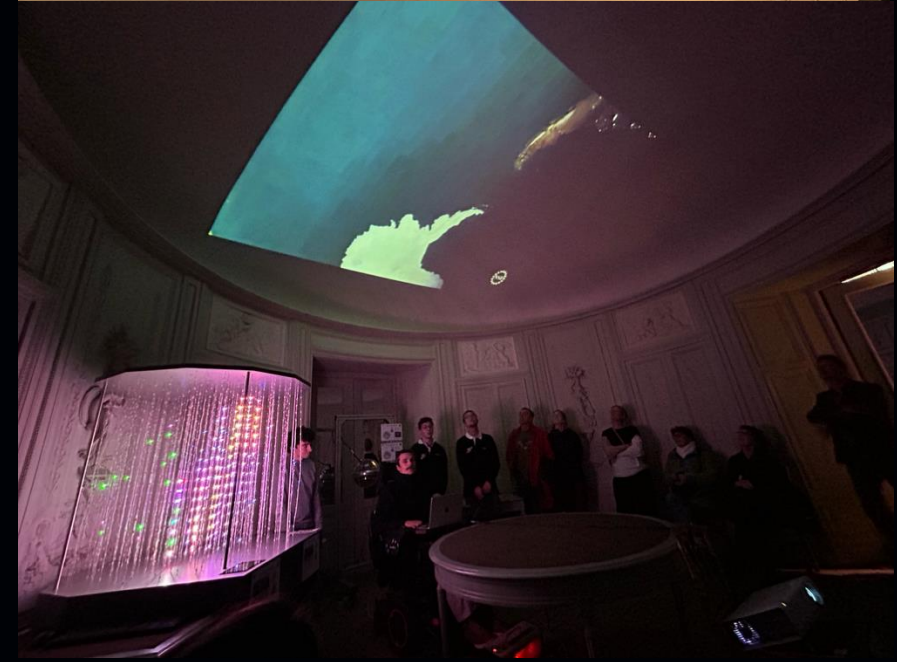
Belgian media response



- Solo exhibition of artist Donald Fortescue, including collaboration with PhD student J. Mauro and myself.
- Temporary exhibition with the demonstration of the main instruments used for neutrino research at the South Pole and the Mediterranean Sea
- PlaNUtarium: a room transformed into a planetarium with neutrinos projected on the dome

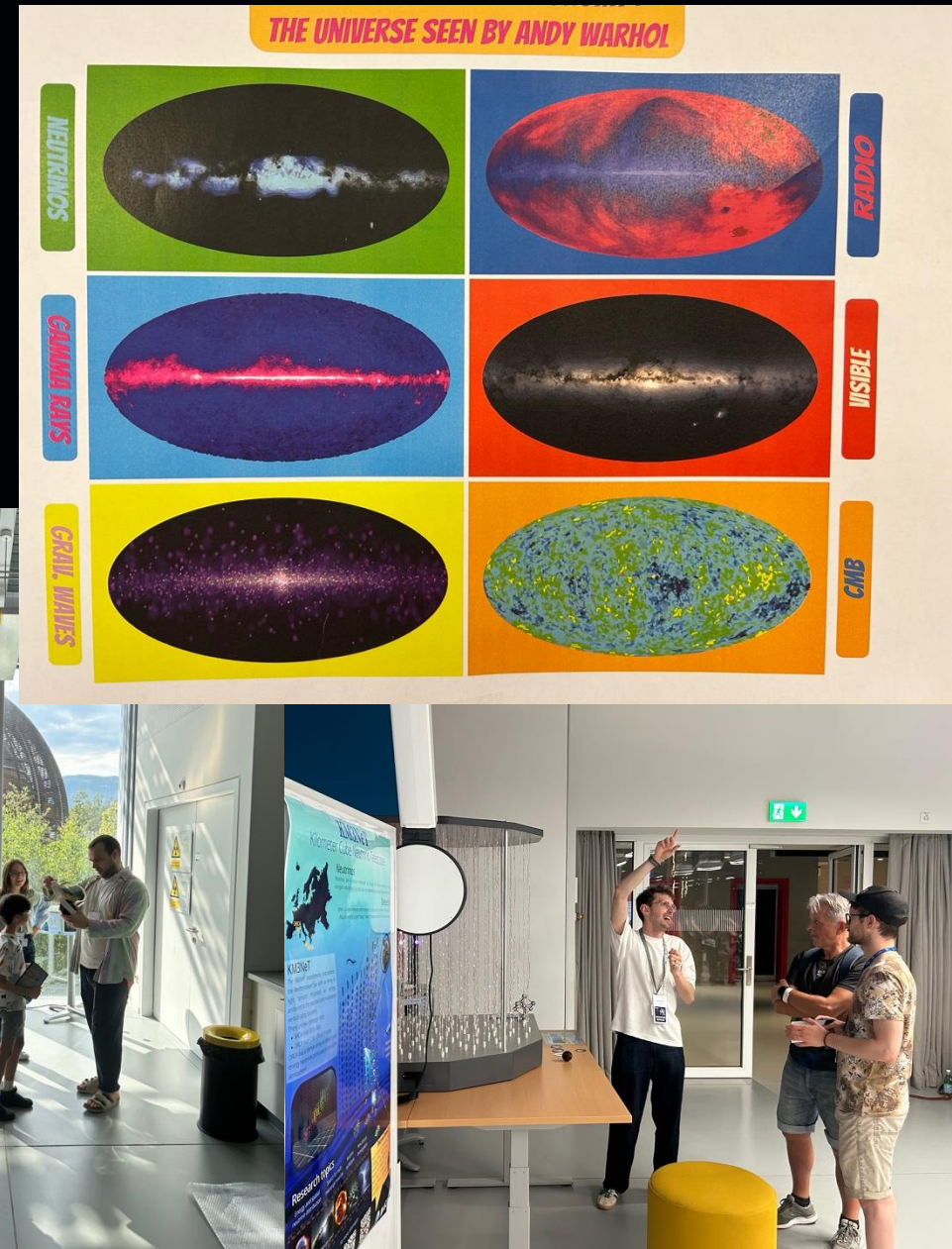


<https://www.donaldfortescue.com/video#/axis-mundi/>  
<https://www.donaldfortescue.com/video#/below-the-surface/>





- Masterclass about art and science for master students at UCLouvain
- Some of their projects part of the STELLAR exhibition in the CERN Science Gateway: > 850 visitors



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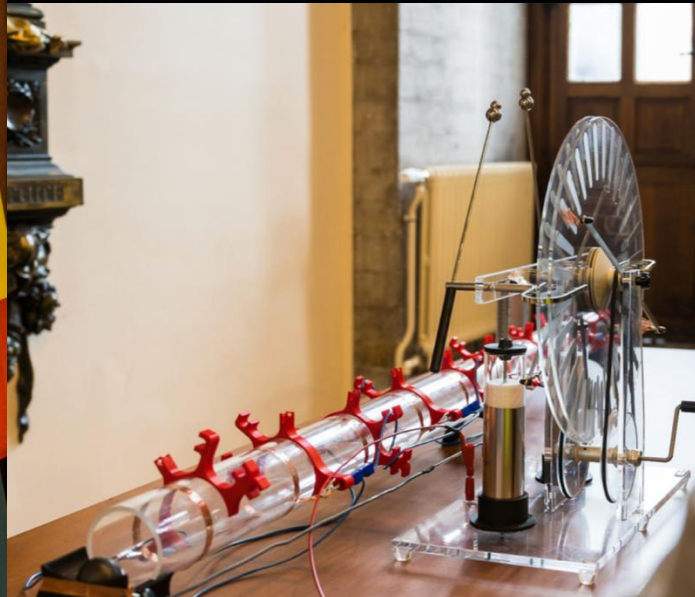
Educational programs

Belgian media response



## “A Decade of Discoveries” at the Brussels Town Hall (March 2023)

- International symposium with 200 researchers, from master students to Nobel Prize
- Outreach village with 700 primary and high-school students
- F. Maltoni and G. de Wasseige awarded Wernaers prize by FNRS

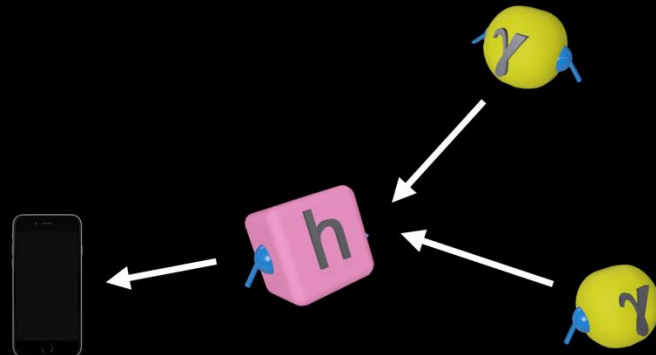




## “A Decade of Discoveries” at the Brussels Town Hall (March 2023)



- Apps for iOS
- Augmented reality on the Grand Place to chase the Higgs!
- Particle hunters were literally running among the tourists



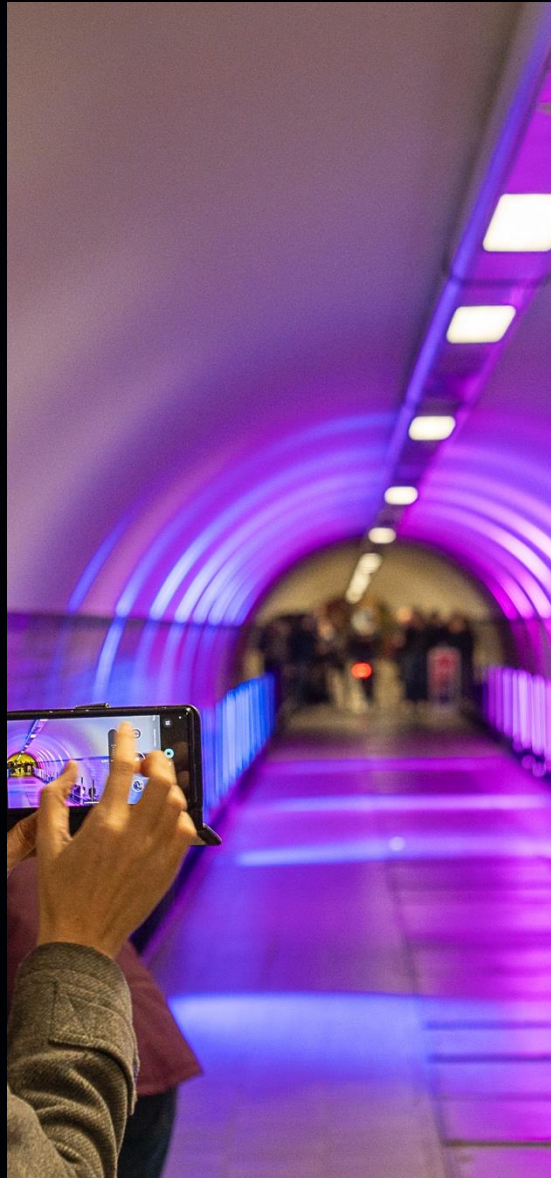
<https://ippog-resources-portal.web.cern.ch/project-58/>

<https://ippog.web.cern.ch/news/particle-physics-becomes-game-app-actually-two>



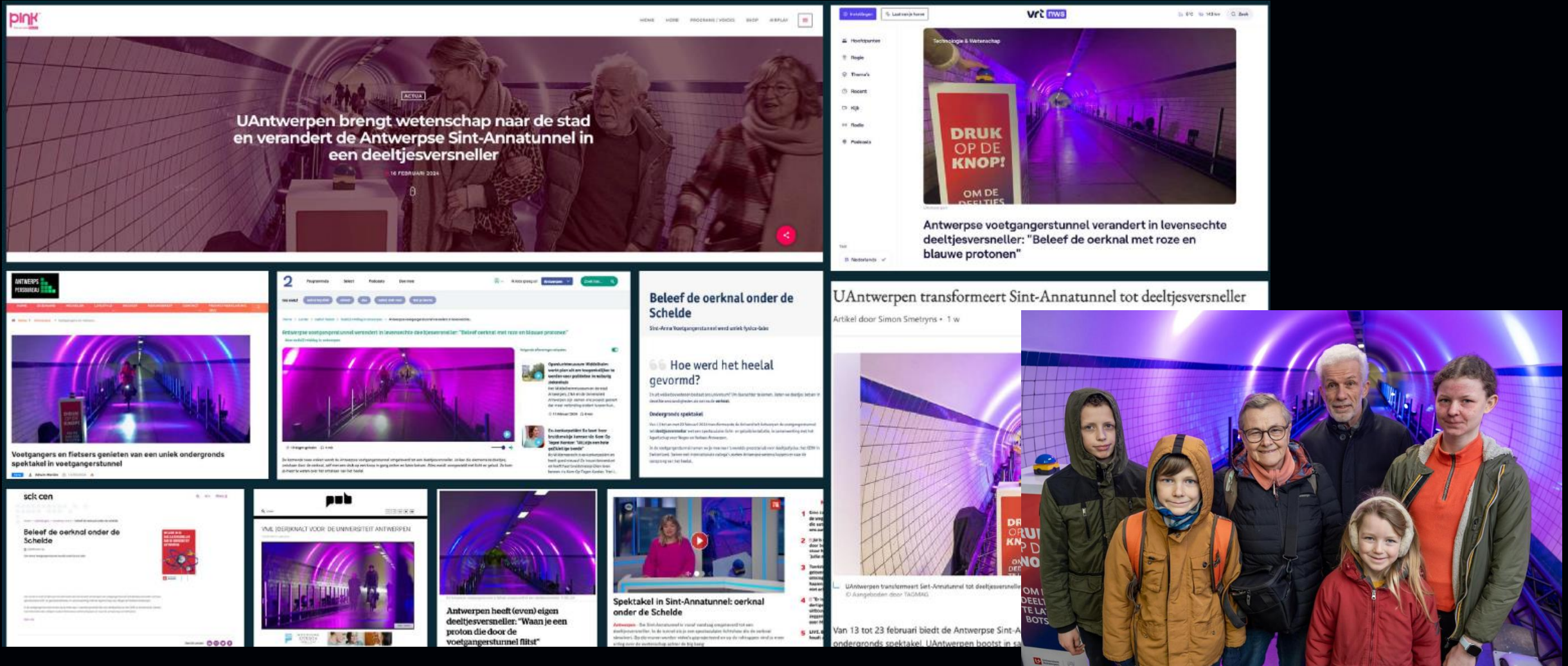
## “Voetgangerstunnel” in Antwerpen (February 2024)

- 70 posters on the escalators and mezzanine
- Teaser light and audio in the tunnel
- “Push the Button” to activate the particle accelerator
- >11 000 participants





## “Voetgangerstunnel” in Antwerpen (February 2024)





## “Neutrino dans les rues” in Louvain-la-Neuve (October 2024)

- IceCube has the same size as Louvain-la-Neuve
- One of the most energetic neutrinos detected by IceCube in augmented reality throughout Louvain-la-Neuve
- Also available: the most energetic neutrino ever detected (by KM3NeT)



<https://apps.apple.com/fr/app/neutrino-in-the-streets/id6701879829?l=en-GB>

<https://github.com/psevle/Neutrinointhestreets/releases/download/v1.1/NeutrinoInTheStreets.apk>



## “Big Bang Bike”

- Biking through the different eras of our Universe
- Collaboration with WeWatt and P. Ceysens







Elevation profile

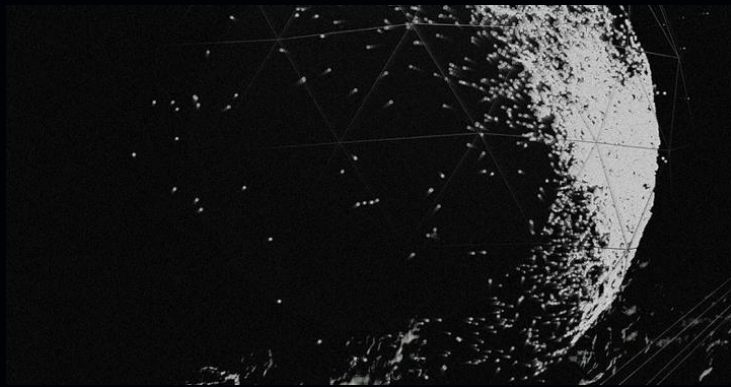
## “Big Bang Road” between Leuven and Louvain-la-Neuve

- 75 km long round trip cycle route between the twin cities of Leuven and Louvain-la-Neuve
- M. Huyse (KU Leuven) and J. Govaerts were awarded the Wernaers Prize (FNRS) and the KVAB prize

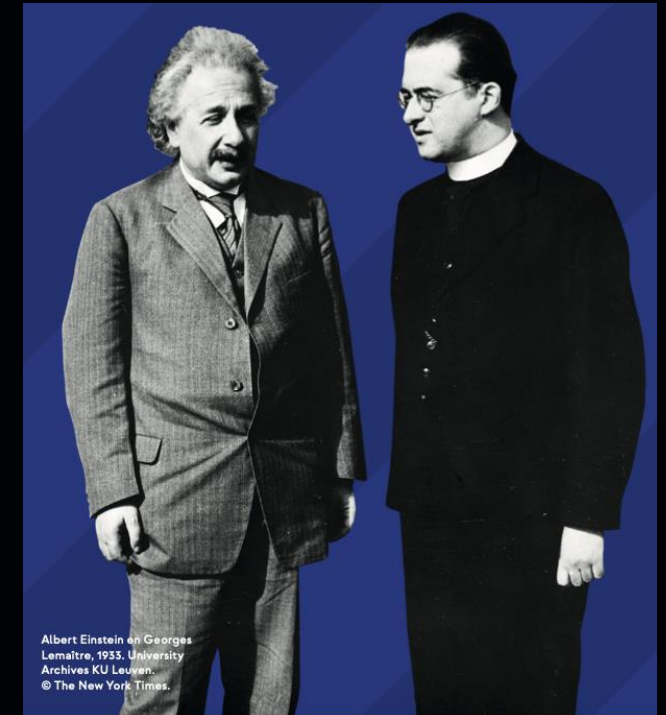
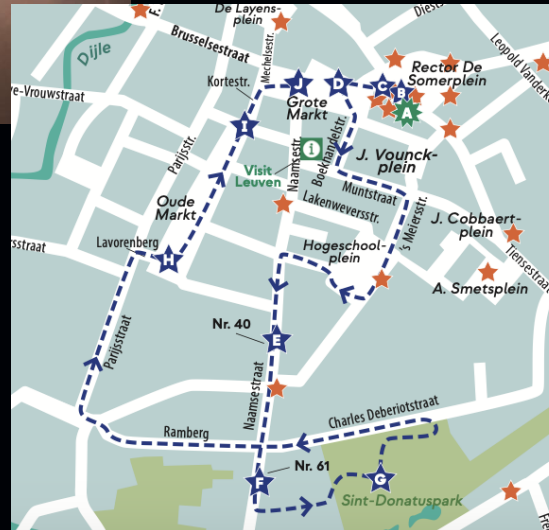


## “BANG” festival in Leuven (October 2021- February 2022)

### KNAL! Stadsfestival van de Big Bang



- Festival in the streets of Leuven to celebrate the 90th anniversary of “prof. Georges Lemaître shaking our world to its core.”
- Numerous activities throughout the city combining arts and sciences



<https://www.lefleuven.be/en/projects/bang-big-bang-city-festival>

<https://www.kuleuven.be/cultuur/kunstleuven/knal>

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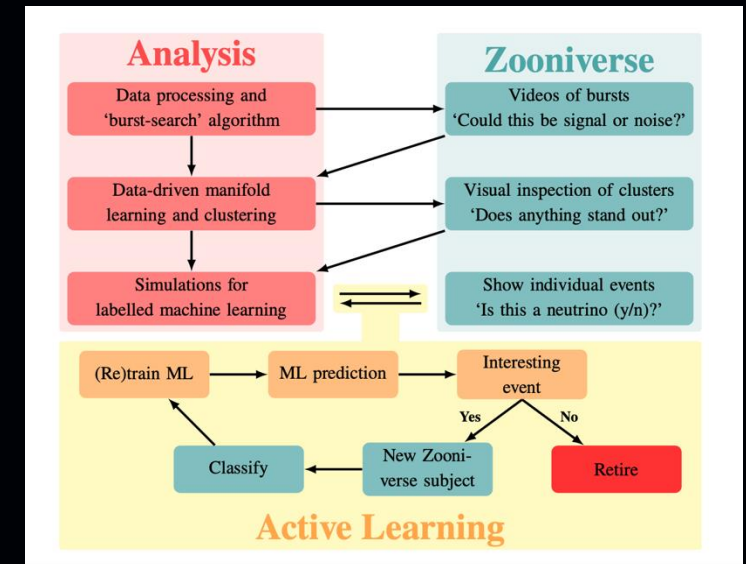
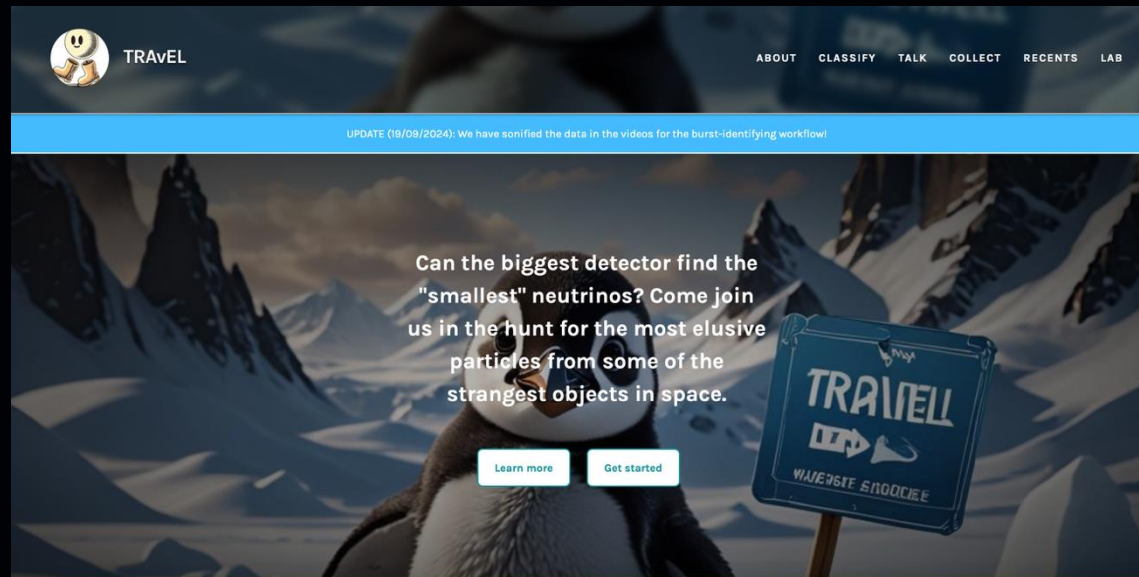
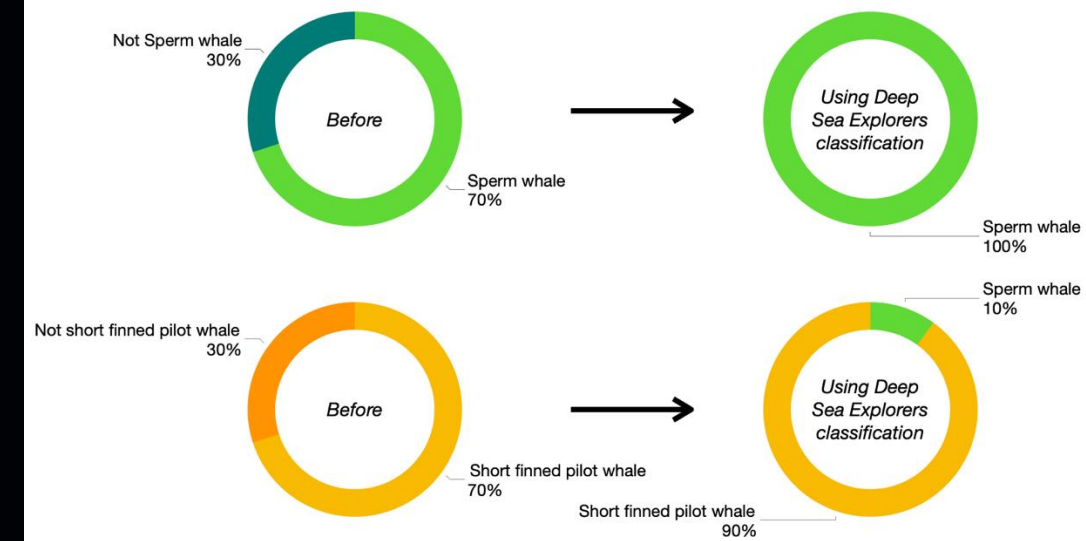
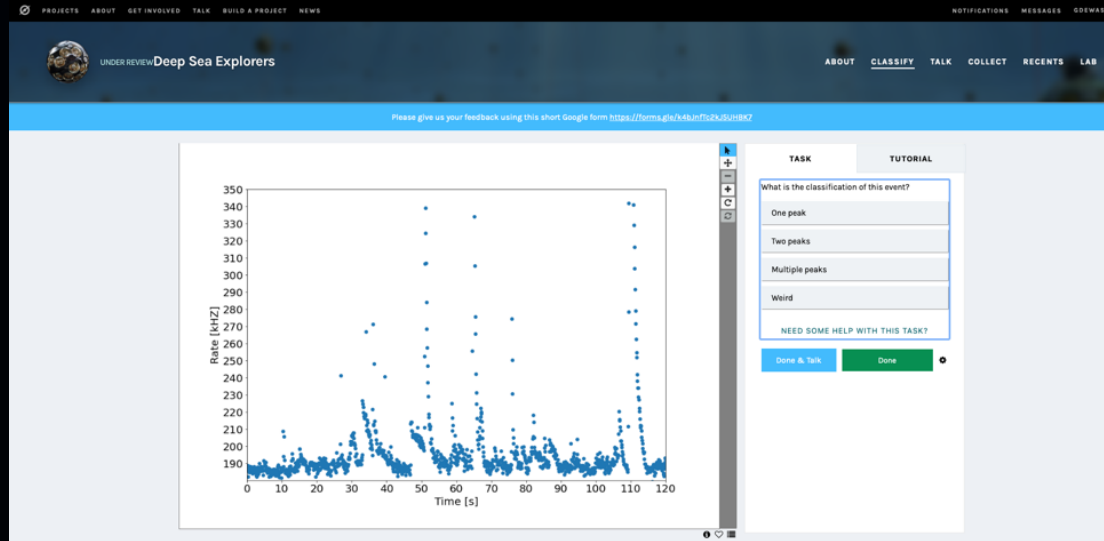


<https://www.zooniverse.org/projects/reinforce/deep-sea-explorers>

# Citizen Science

Stavros Katsanevas  
at ICHEP2022







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## *Kosmos*

This workshop invites everyone to explore the wonders of stars, comets and planets through dance.

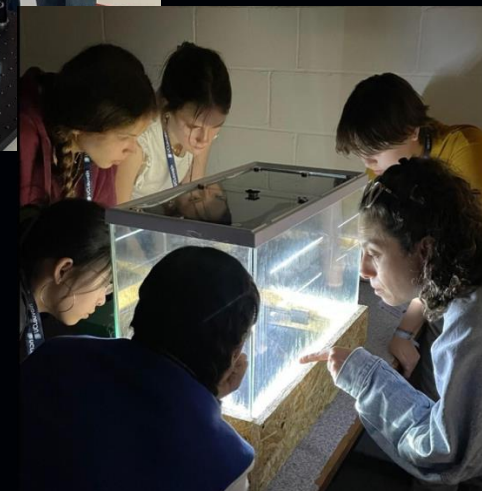
Learn about the motions of celestial bodies by embodying them: from the graceful orbit of the Earth around the Sun to dramatic star mergers and the wild paths of comets across the sky

Developed by Else Magnus (PhD student) in corporation with Atelier Léon.

For high-school students

## *Physics Project Days*

- Organized since 2023 to break stereotypes and restore gender balance  
(participation of 58 women, 16-18 years old in this edition)
- Immersion of 3-4 days into collaborative physics research project programme
- Diverse project themes: neutrino astronomy, particle physics, gravitational waves, instrumentation, climate change, programming, robotics, data analysis,, etc.
- Initiated by A. Benecke and J. Favereau
- Also in Hamburg, Kiel, and Aachen.



For women in high-school



## *Belgium Dutch German graduate school in particle physics*

- About 50 participants every year
- 2024 edition in Blankenberge, organized by UGent
- Currently happening in the Netherlands near Nijmegen



For PhD students



# Belgian media response

← La Libre Journal Abonnez-vous

**L Des chercheurs belges font une découverte "inestimable", qui pourrait mener l'un de nos compatriotes au prix Nobel**

Une équipe de recherche internationale, dont des Belges de l'UCLouvain, vient de détecter une "particule fantôme" réputée pour être extrêmement compliquée à observer. Ce "neutrino" est le plus rapide jamais observé. L'intérêt de cette découverte exceptionnelle ? Mieux comprendre les événements les plus cataclysmiques dans l'Univers tels que des explosions d'étoiles ou des trous noirs.

belga Belga +

Des chercheurs belges détectent un neutrino d'une énergie sans précédent dans l'Univers

7mo



Des chercheurs belges détectent un neutrino d'une énergie sans précédent dans l'Univers

Des scientifiques de l'UCLouvain, en collaboration avec une équipe de recherche internationale, viennent de réaliser une avancée majeure afin de mieux comprendre l'Univers.

≡ DAILY SCIENCE 10



Vue d'artiste d'une galaxie active (blazar) émettant un jet astrophysique de matière © DESY, Science Communication Lab

**PLONGÉE DANS L'INVISIBLE : LE NEUTRINO DE HAUTE ÉNERGIE APORTE UN NOUVEL ÉCLAIRAGE SUR L'UNIVERS**

13 FÉVRIER 2025  
par Laetitia Theunis

≡ The Brussels Times SUBSCRIBE

For less than a cup of coffee a week ↑

**Finding Neutrino: Breakthrough discovery of ultra-high energy 'phantom particles'**

Thursday, 13 February 2025  
By **Orlando Whitehead**

DERNIÈRES DÉCOUVERTES

**"L'univers marque le penalty le plus rapide de son histoire" : cette particule mystérieuse détectée par une équipe de l'UCLouvain**

Accueil

12 févr. 2025 à 17:00 - mise à jour 15 févr. 2025 à 21:03 • 4 min

**INFO** Par **Johanne Montay**

Partager Écouter



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On top of traditional masterclasses and talks to different audiences