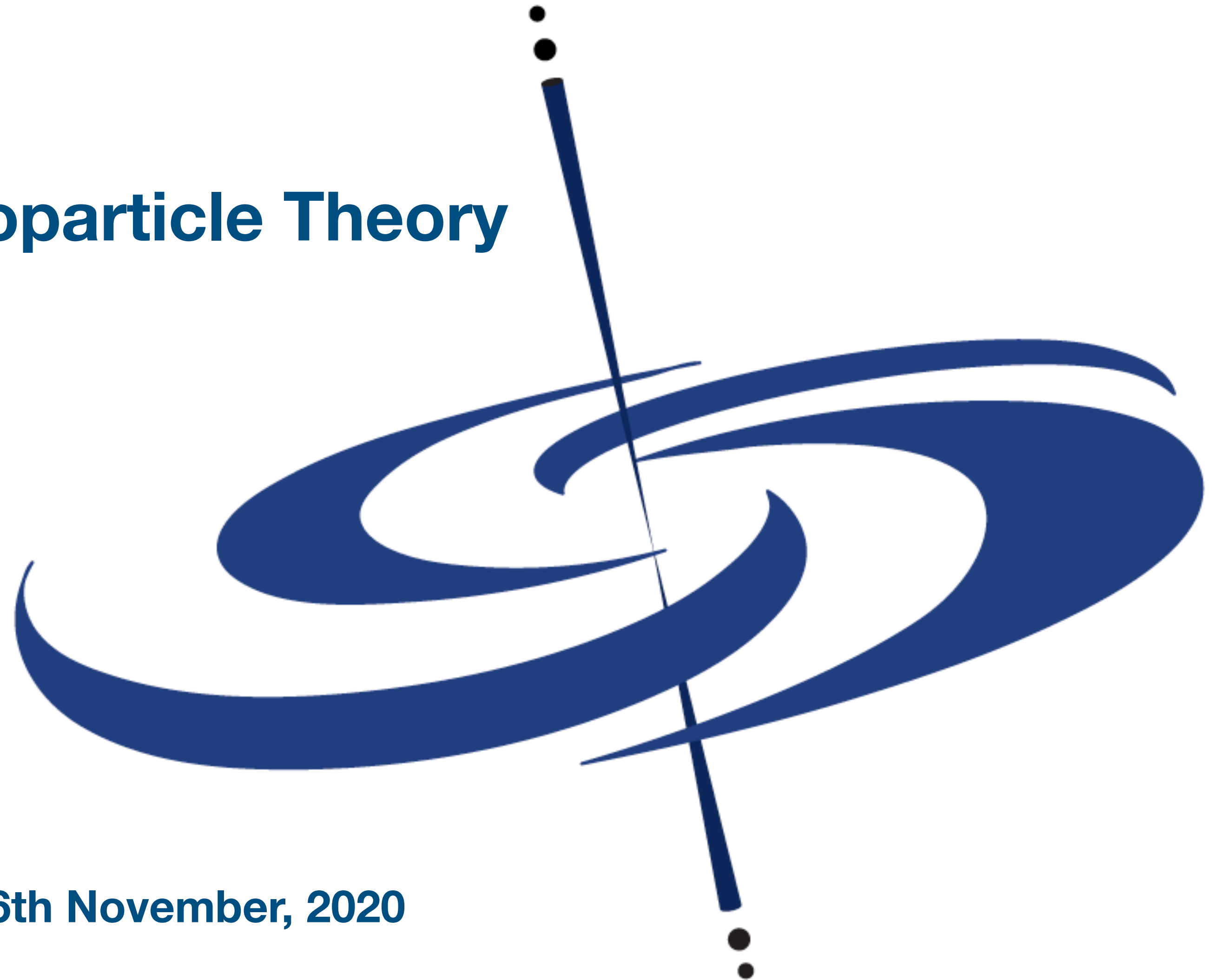


EuCAPT

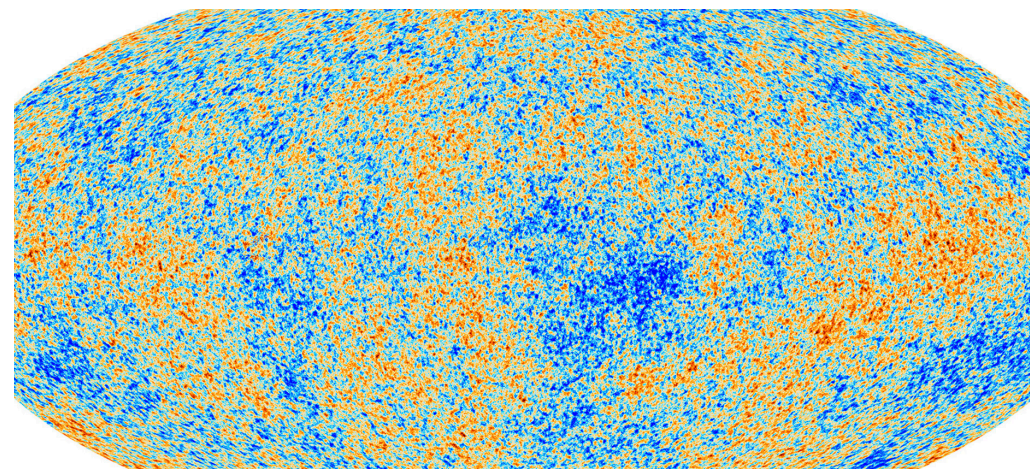
European Consortium for Astroparticle Theory

David Marsh (on behalf of the steering committee), 16th November, 2020

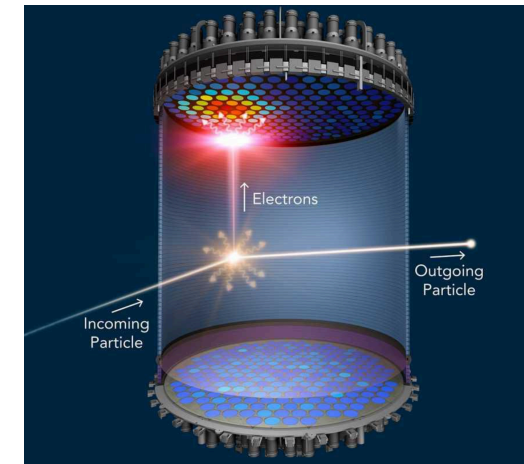


A rapidly evolving field

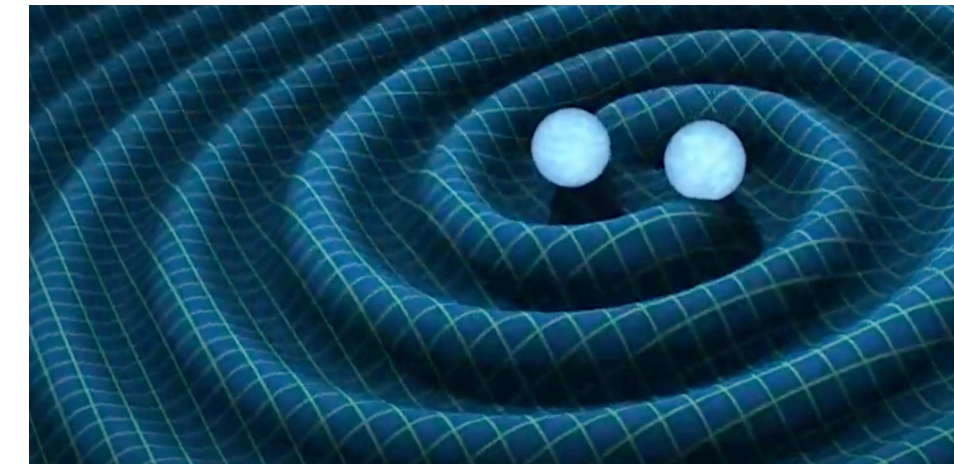
Observations:



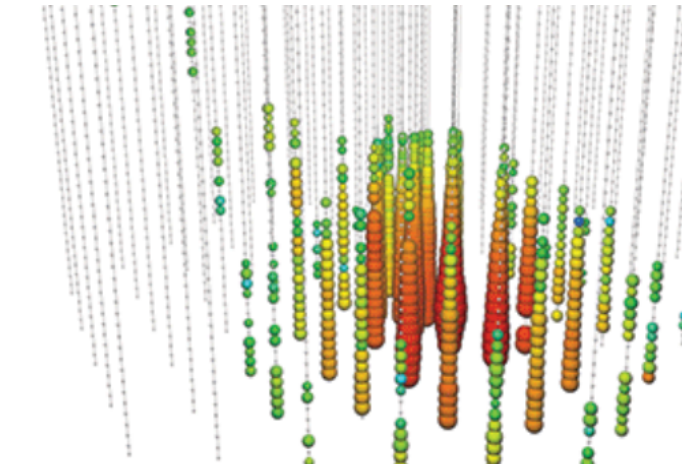
Precision cosmology



Dark matter limits



Multi-messenger astronomy



High-energy neutrinos

Theory:

What's the origin of the density perturbations?

How to understand accelerated expansion?

What's the nature of dark matter?

What can we learn from multi-messenger astrophysics?

How do cosmic accelerators work?

... and many more

EuCAPT aims to:

- bring together the European community of theoretical astroparticle physicists and cosmologists
- increase the exchange of ideas and knowledge
- coordinate scientific and training activities
- help scientists attract adequate resources for their projects
- promote a stimulating, fair and open environment in which young scientists can thrive



Funded in 2019 by APPEC and CERN.

Steering committee

Gianfranco Bertone (director), GRAPPA/Nikhef Amsterdam

Philippe Brax, Paris-Saclay

Vitor Cardoso, IST Lisbon

Gian Giudice, CERN

David Langlois, APC Paris

David Marsh, Stockholm University

Silvia Pascoli, IPPP (Durham)

Antonio Riotto, Université de Genève

Subir Sarkar, Oxford University

Andrew Taylor, DESY (Hamburg)

Piero Ullio, IFPU Trieste

Licia Verde, ICC Barcelona

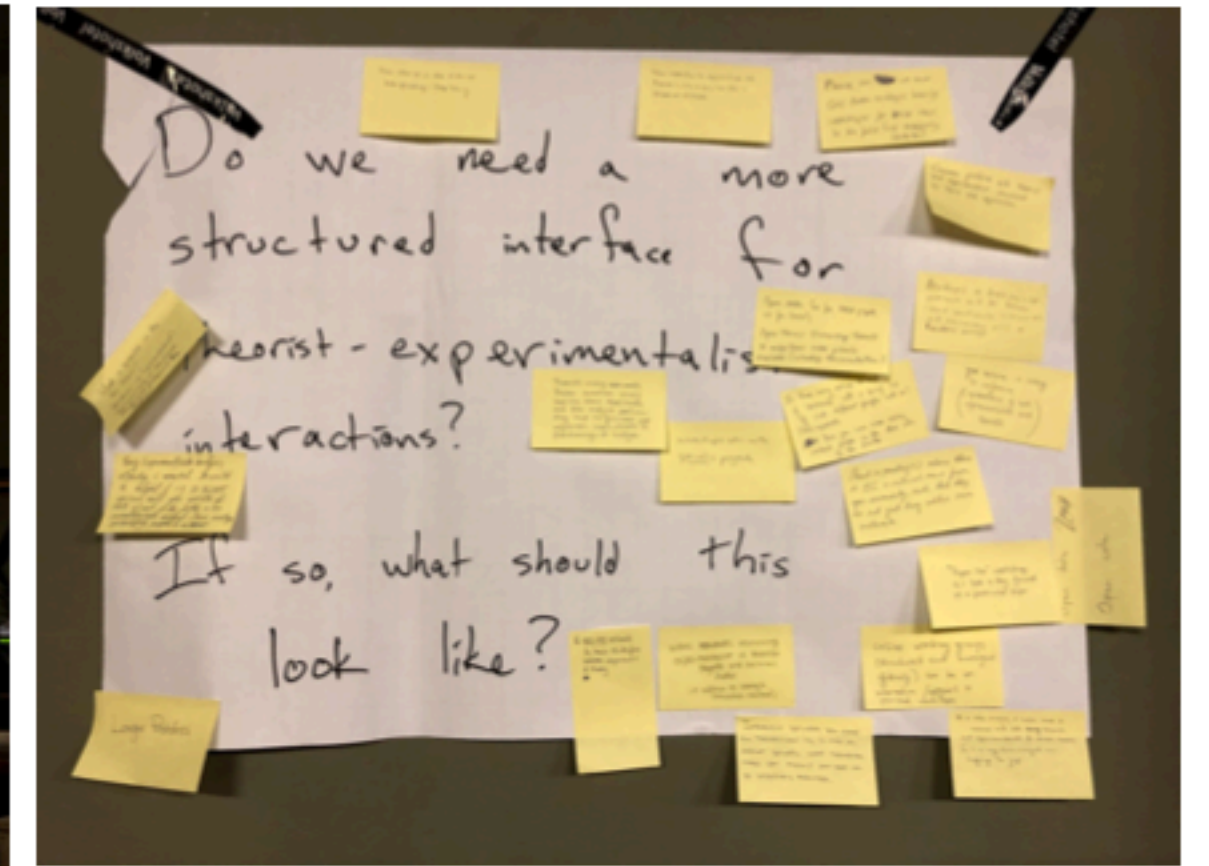
Volunteer

Nikolina Sarcevic, Newcastle University



Workshops and symposia

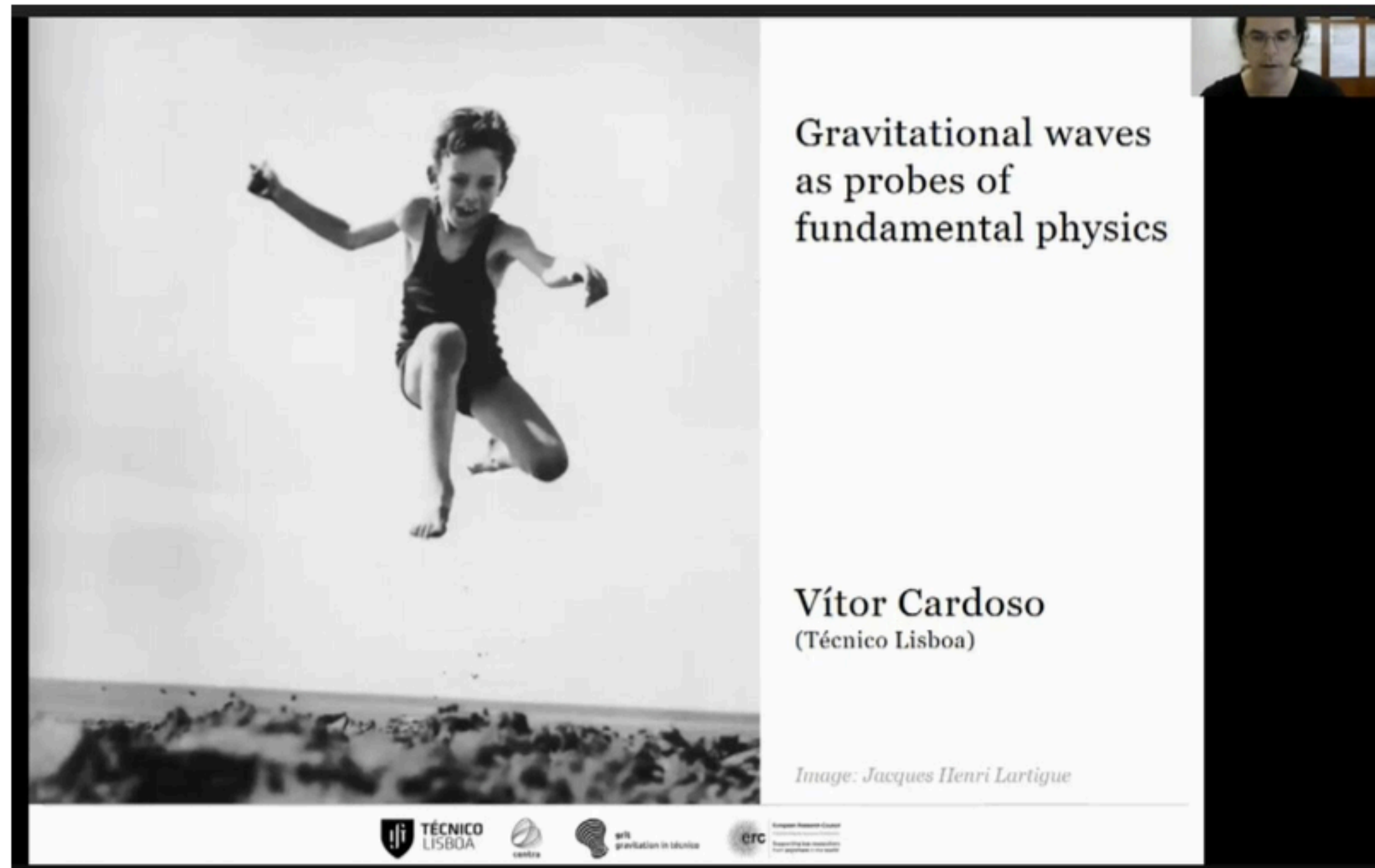
- 2 thematic workshops / year



“Gravitational Wave Probes of fundamental physics” thematic workshop held in Amsterdam, November 2019

- **One annual symposium**, first symposium to be held at CERN, re-scheduled to May 2021
- **Dedicated meetings for small groups of scientists**, hosted by central hub (CERN for first 5 years)

Virtual colloquia



Gravitational waves as probes of fundamental physics

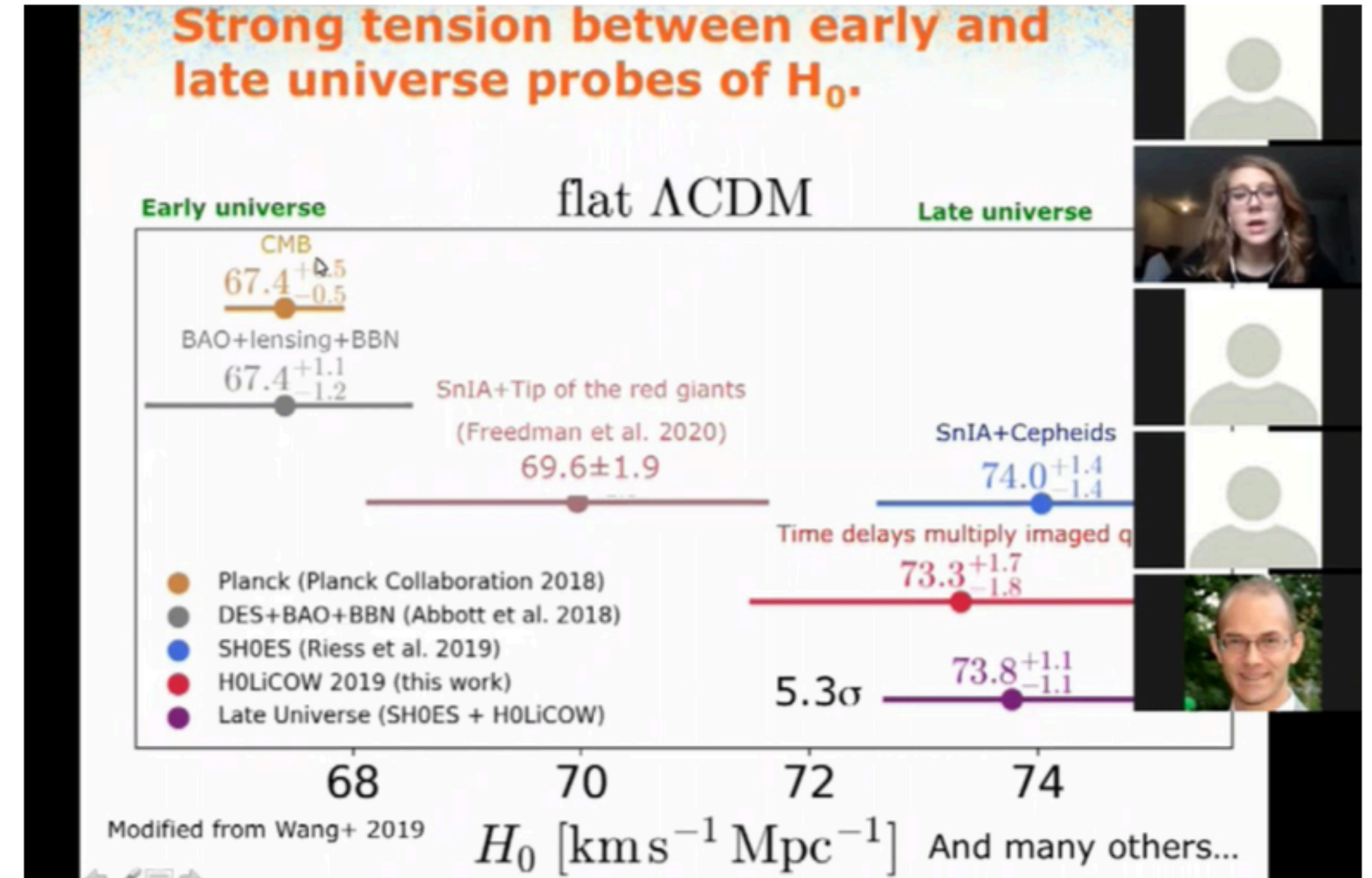
Vitor Cardoso
(Técnico Lisboa)

Image: Jacques Henri Lartigue

Logos: TÉCNICO LISBOA, ERC, etc.

A black and white photograph of a young girl jumping in the air, with a small video feed of Vitor Cardoso in the top right corner.

Vitor Cardoso



Silvia Galli

eu capt.org

newsletter


events

virtual talks

...

The screenshot shows the top navigation bar with links for Home, Newsletter, Events, and Virtual Meetings. The main header features the EuCAPT logo and the text "The European Consortium for Astroparticle Theory". Below this is a large image of a particle detector. The main content area includes a text block about the transformation of astroparticle physics, a list of goals, and a steering committee. A sidebar on the right contains several news items with thumbnails and dates.

Home Newsletter Events Virtual Meetings

 The European Consortium for Astroparticle Theory

Astroparticle physics is undergoing a phase of profound transformation. We have recently obtained extraordinary results such as the discovery of high-energy cosmic neutrinos with IceCube, the direct detection of gravitational waves with Ligo and Virgo, and we have witnessed the birth of multimessenger astrophysics.

Yet we have formidable challenges ahead of us: understanding the nature of dark matter and dark energy, elucidating the origin of cosmic rays, understanding the matter-antimatter asymmetry problem, and so on. These are highly interdisciplinary problems that have ramifications in cosmology, particle, and astroparticle physics, and that are best addressed by a strong and diverse community of scientists.

The **European Consortium for Astroparticle Theory (EuCAPT)** aims to bring together the European community of theoretical astroparticle physicists and cosmologists.

Our goals are:

- to increase the exchange of ideas and knowledge;
- to coordinate scientific and training activities;
- to help scientists attract adequate resources for their projects;
- to promote a stimulating, fair and open environment in which young scientists can thrive.

Steering Committee:

Gianfranco Bertone, Director
Philippe Brax
Vitor Cardoso
Gian Giudice
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David Marsh
Silvia Pascoli
Antonio Riotto
Subir Sarkar
Andrew Taylor
Piero Ullio
Licia Verde

Complementarity of global oscillation data
November 10, 2020

RT @NikoSarcevic: A very nice overview of current efforts in #neutrino physics in the @EuCAPT coll...

Join the EuCAPT Astroparticle physics community on Mattermost — open-source alternative to Slack and...
October 23, 2020


RT @KaiSchmitzHEP: Announcement on a very short notice: On Thu 22 October, we will host an impromptu...
October 16, 2020

RT @joachimkopp: We are hiring: @CERN is planning to fill several 5+1-year staff positions in theore...
October 8, 2020

Gravitational Wave Probes of Fundamental Physics
In response to the #JENAS call the Gravitational Wave Community prepared an

The screenshot shows the top navigation bar with links for Home, Newsletter, Events, and Virtual Meetings. The main header features the EuCAPT logo and the text "The European Consortium for Astroparticle Theory". Below this is a section titled "Virtual talks this week" with a calendar grid for the dates 09-15 NOV 2020. The calendar shows several virtual talks scheduled for Tuesday, Wednesday, and Thursday. Below the calendar is a section for "Featured seminar series" with two entries: "EuCAPT Virtual Colloquia" and "CERN Theory".

Home Newsletter Events Virtual Meetings

 The European Consortium for Astroparticle Theory

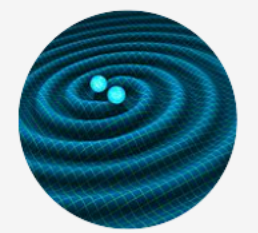
Virtual talks this week


◀ 09 - 15 NOV 2020 ▶ Timezone: GMT +01:00

	09 MONDAY	10 TUESDAY	11 WEDNESDAY	12 THURSDAY	13 FRIDAY	14 SATURDAY	15 SUNDAY
10am							
11am							
12pm							
1pm							
2pm			14:00 - 16:00 CERN TH Coll...				
3pm		15:00 - 16:00 EuCAPT Virtu...					
4pm			16:30 - 18:30 CERN TH Cos...				
5pm							
6pm		18:00 - 19:00 Zvi Bern: From...					

Featured seminar series

If you would like your seminar series to be advertised on this page, please contact David Marsh at david.marsh@fysik.su.se.

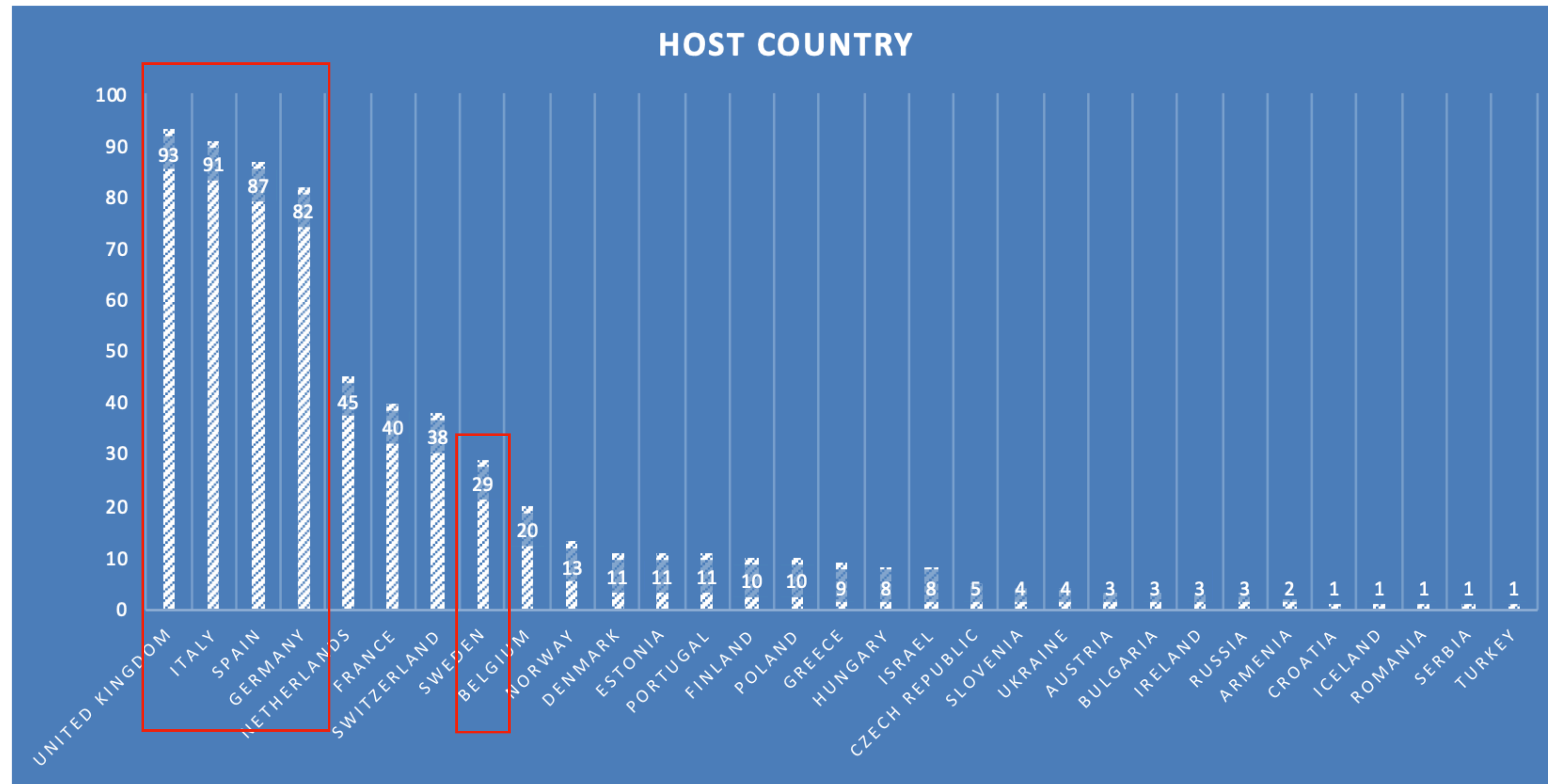
 **EuCAPT Virtual Colloquia**
Monthly virtual colloquia of the European Consortium of Astroparticle Theory (1st Tuesday of the month at 11am CET).
[Link](#)

 **CERN Theory**
CERN-TH is making all events easily accessible to everyone, from standard seminars to informal "virtual coffees", i.e. discussion sessions devoted to specific research areas. An updated list of

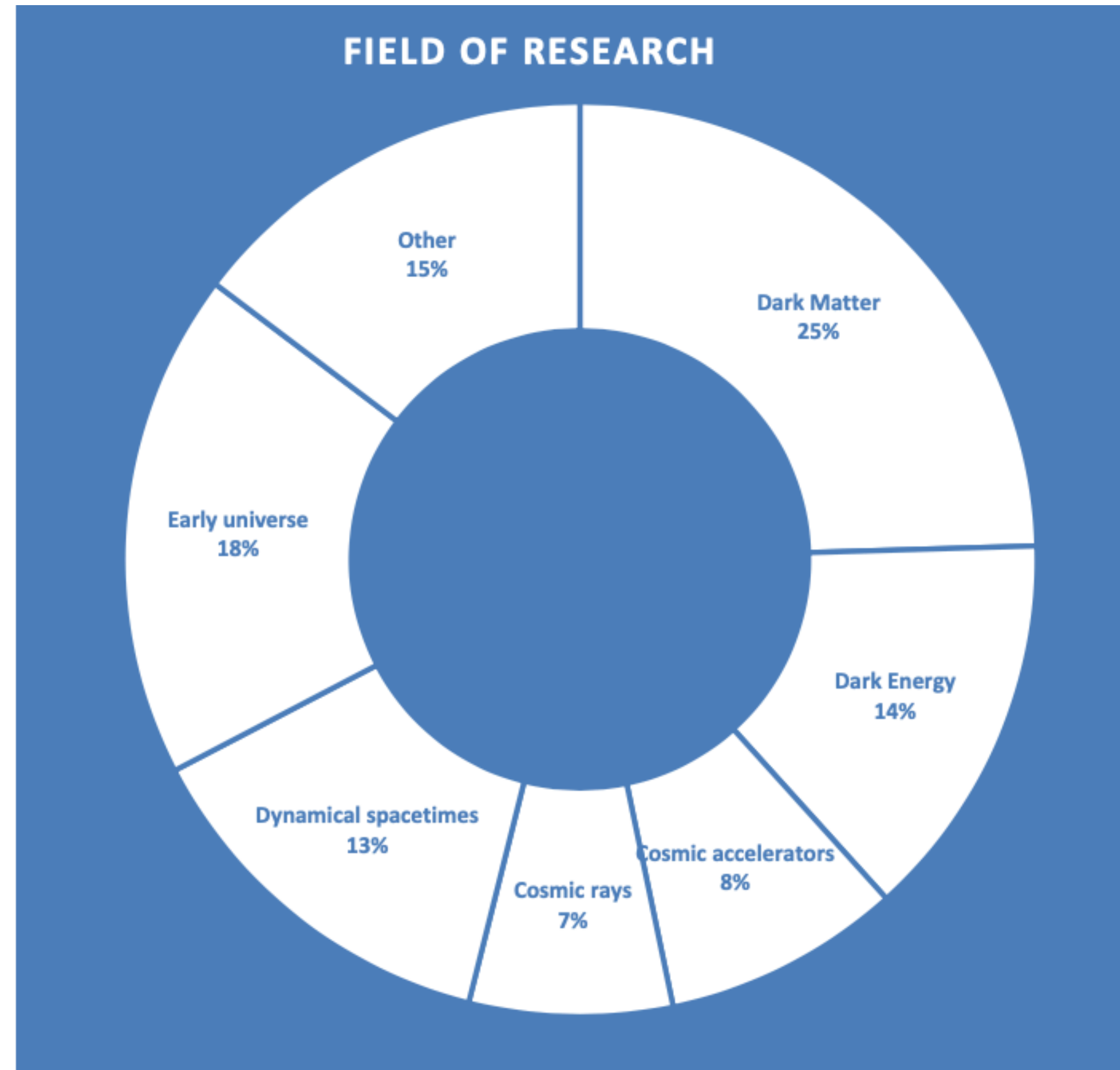
Census

Questionnaire for scientists active in the field open between 13th and 31st January, 2020.

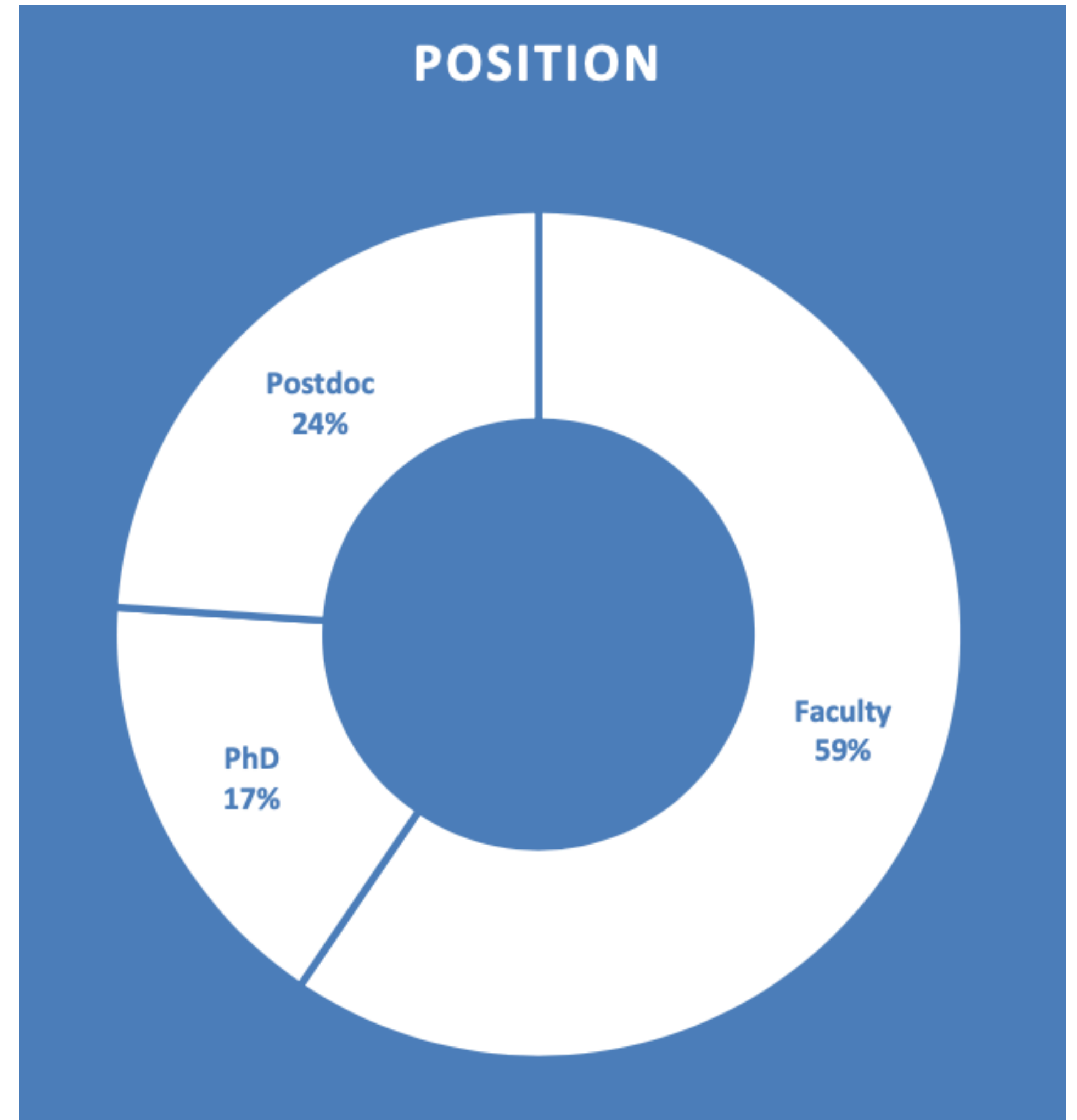
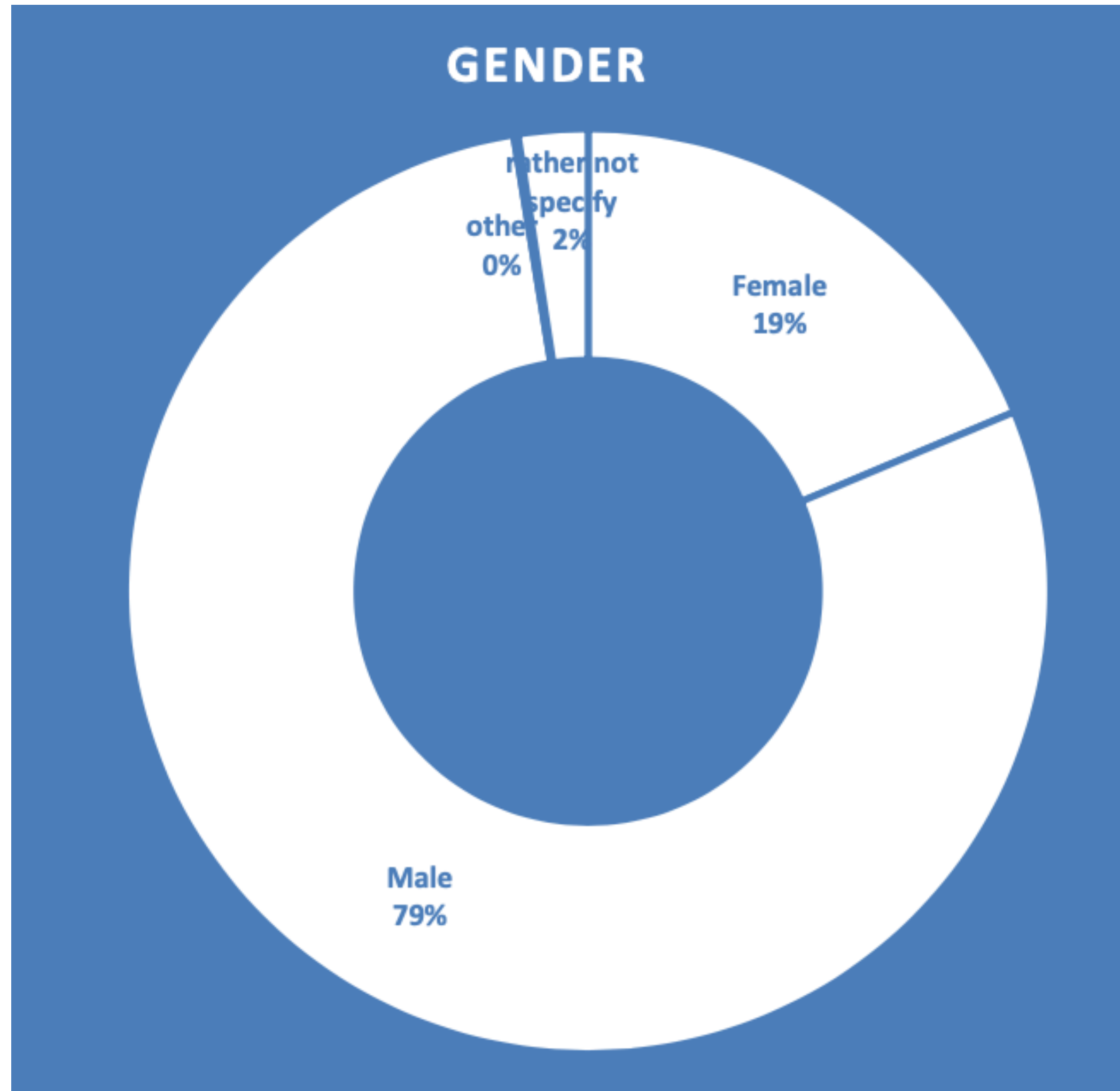
Received 660 valid responses from scientists in 31 European countries. Caveat: possible bias introduced by channels used to advertise census.



Census - research area



Gender and position



Outlook

EuCAPT is an ambitious initiative to boost theoretical astrophysics in Europe

Events organised and supported thus far have been very successful

A range of activities planned for 2021 and onwards

The first census gives an instantaneous (albeit biased) snapshot of the community

The organisation is still under development, and hopes to thrive from community interactions