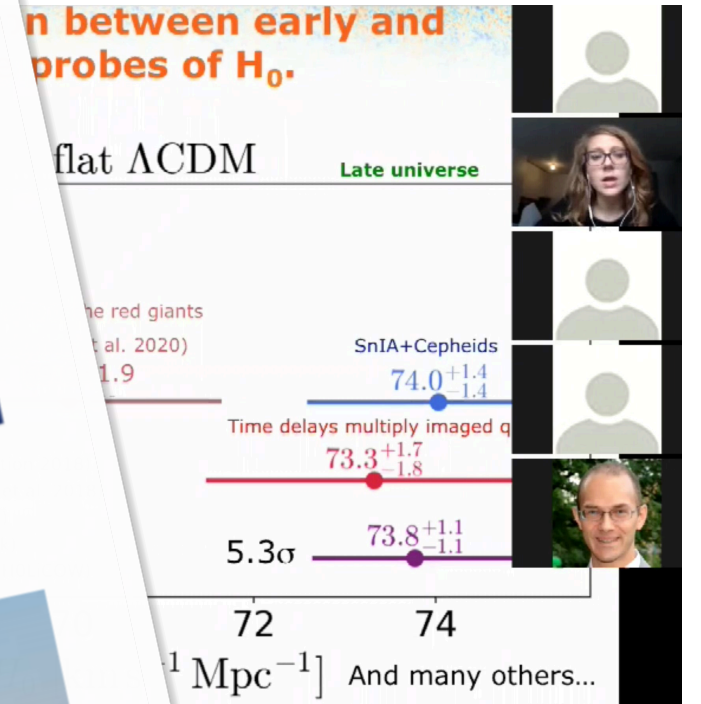




EuCAPT

European Consortium for Astroparticle Theory



Gianfranco Bertone, 20/9/2021

EuCAPT task forces

Piero Ullio - EuCAPT Colloquia

Collects suggestions; invites speakers; coordinates technical aspects; records and makes recording available on CDS (with CERN staff support)

Philippe Brax - EuCAPT thematic Workshops

Collects suggestions; proactively explores interests of relevant institutions; identifies topics and venues; coordinates with local organisers;

Licia Verde - Governance / elections

Helps draft governance; establishes rules for election SC members; clarifies role of participating institutions; identifies procedure for community polls and voting

Vitor Cardoso - Community building

Coordinates travel grants; prizes to be awarded at annual symposia; drafts code of conduct; acts as ombudsperson

Gian Giudice - Annual Symposium

Chairs the annual symposium LOC

David Marsh - Website

Coordinates design and contents of the Website (already in place);

Andrew Taylor - Newsletter

collects and compiles news for the website

Toni Riotto - White Paper

Coordinates task force white paper in charge of defining contents; identifies key editors; coordinates writing and submission

David Langlois - Training

Coordinates ongoing training activities in Europe; actively looks for opportunity to promote interdisciplinary training; identifies gaps and opportunities in training

Silvia Pascoli - Outreach

Coordinates outreach efforts; explores new ideas e.g. youtube channel, social media efforts; general public events

NEW: Anne Green (Nottingham) : EuCAPT Colloquia

EuCAPT Events

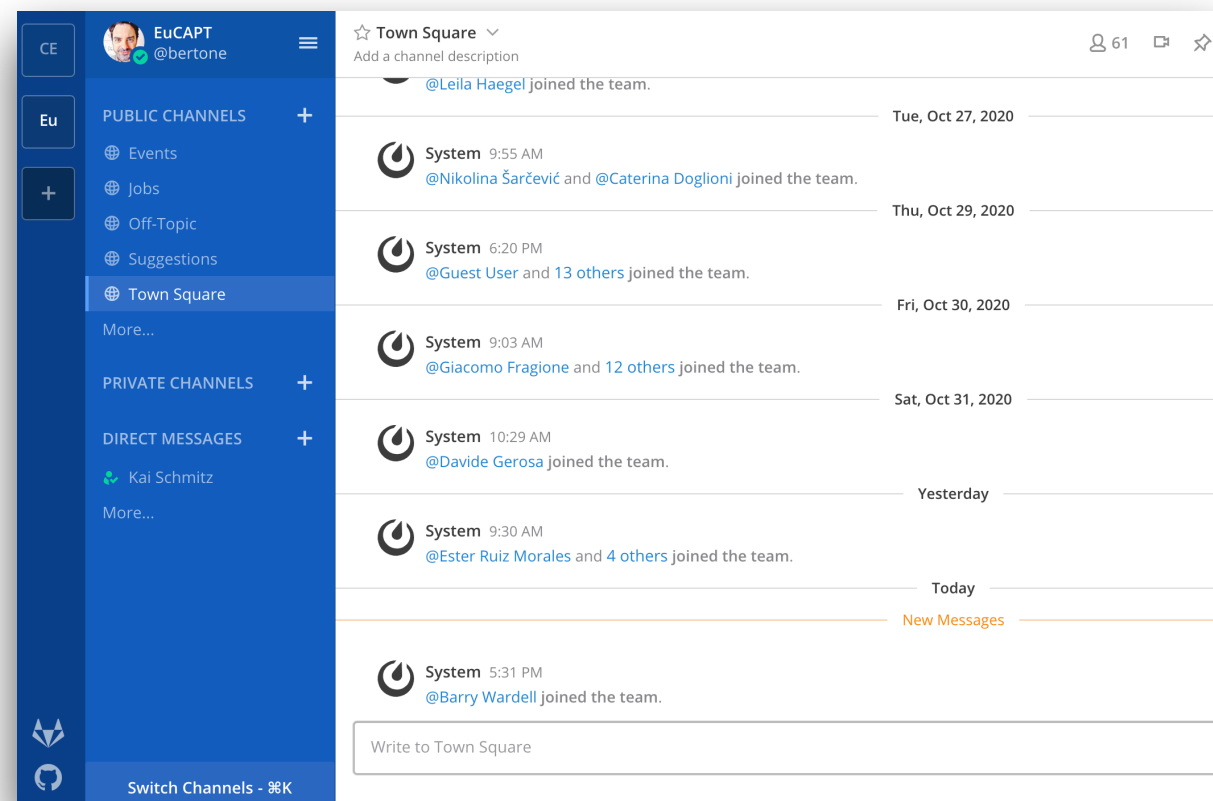


- [2020: DESY workshop cancelled due to pandemic]
- 2021:
 - May: **Annual Symposium** (more later)
 - Sep: **“Astroneutrino Physics”** @IEAP CTU, Prague
 - Sep: **“DESY Theory workshop”**, @DESY, Hamburg
 - Oct/Nov: **“From inflation and reheating to observations”**, @Saclay Paris

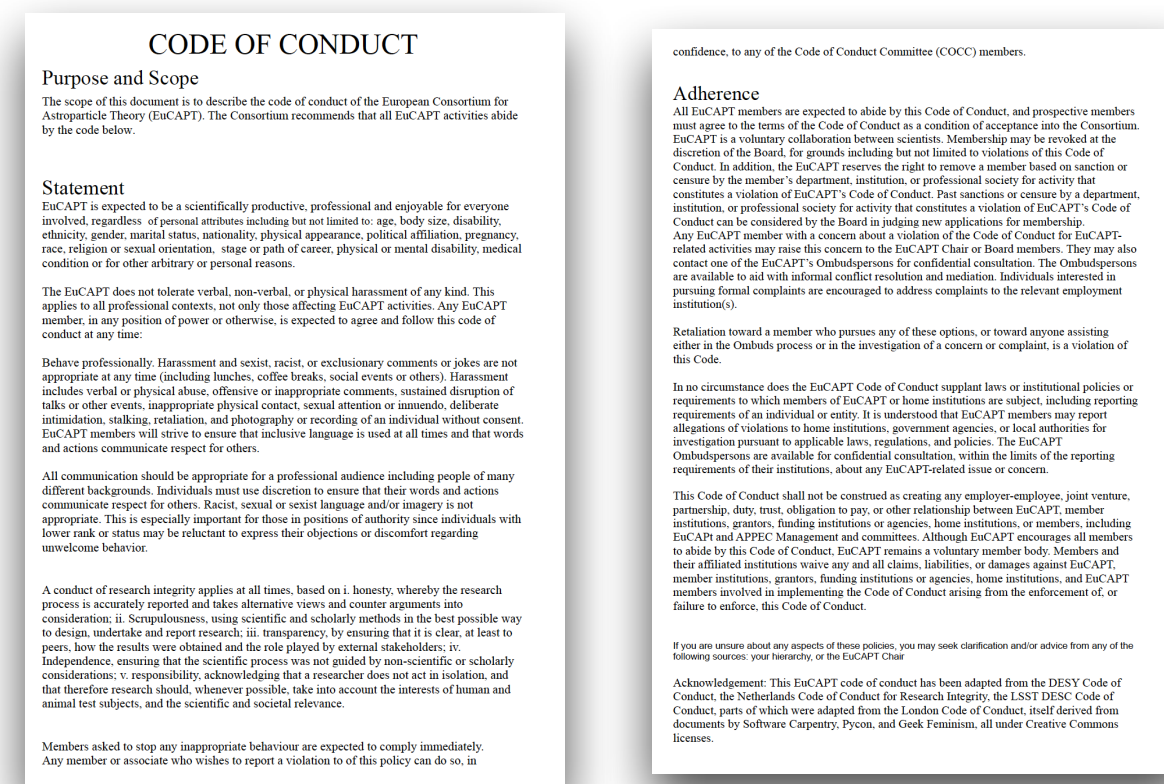
EuCAPT Community Building



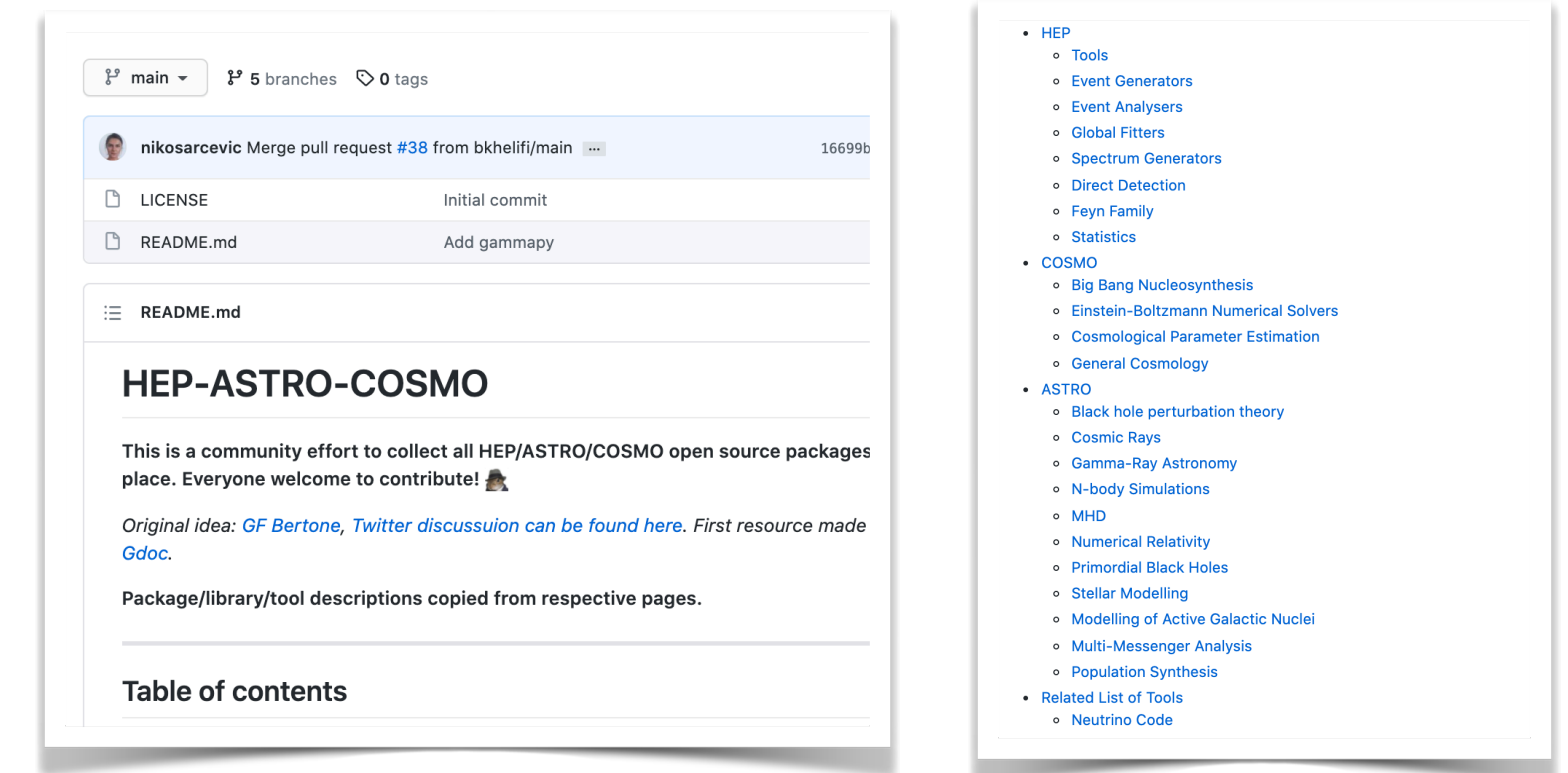
Mattermost



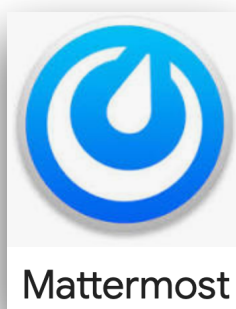
Code of Conduct



Software repository

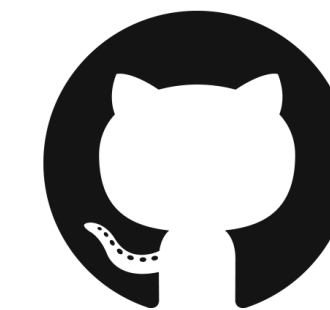


<https://mattermost.web.cern.ch/eucapt/channels/town-square>



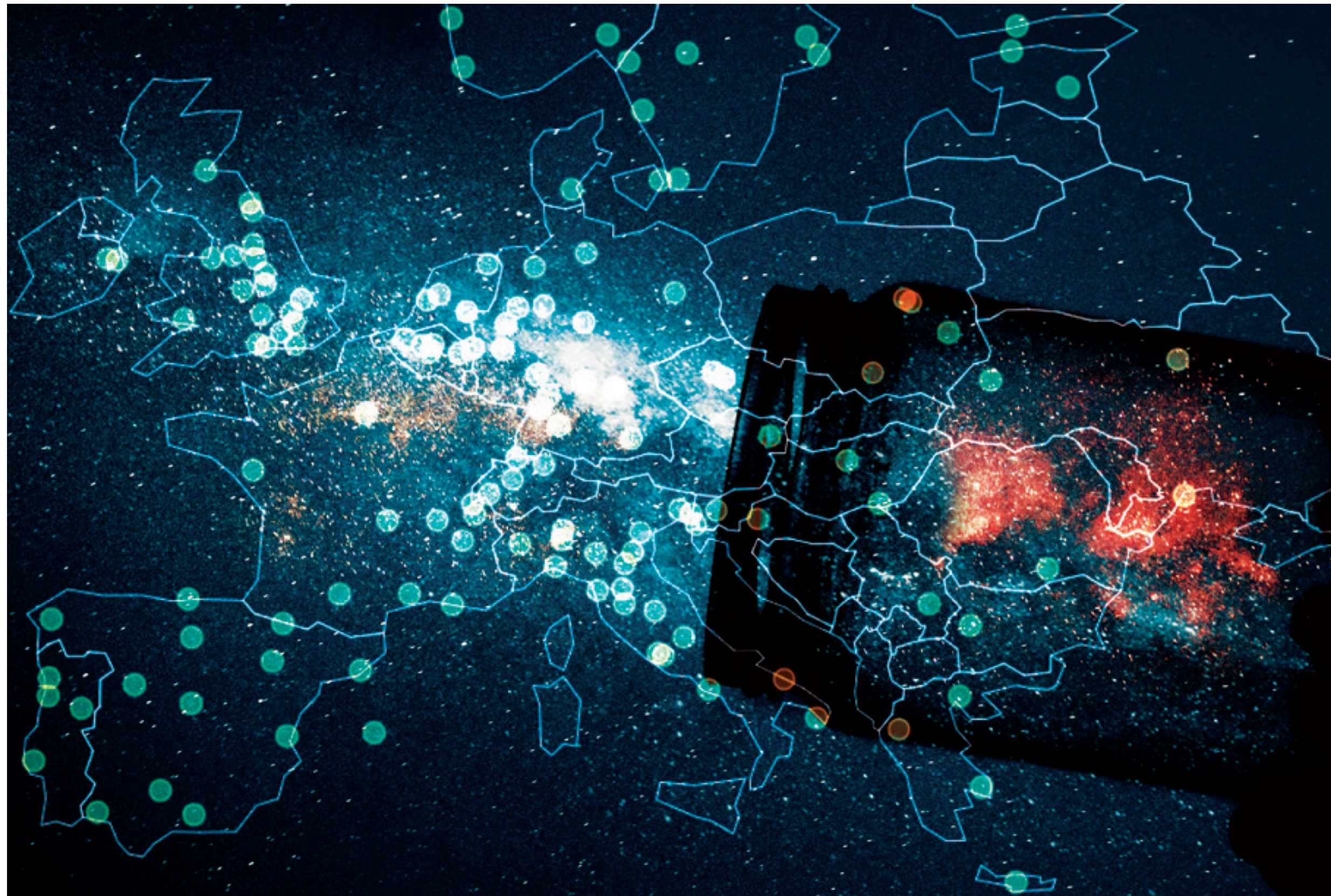
Collaborative tool to facilitate communications, advertise jobs, events, and coordinate collaborative projects, e.g. white paper (see below)

Short version on all events' webpages.
Full version on EuCAPT website



On GitHub: Community effort to collect all HEP/ASTRO/COSMO open source packages/libraries/tools in one place. 15 contributors, 100s

EuCAPT Annual Symposium




- Held from May 5 to 7 via Zoom
- 881 Participants from Europe and beyond met via Zoom
- 29 invited presentations
- 42 lightning talks by young researchers
- 2 community-wide brainstorming sessions
- Wide array of topics at the interface between particle physics, astrophysics and cosmology
- particular emphasis on the challenges and opportunities for these fields of research in the next decade
- sessions not structured around experimental activities but around thematic areas + explored interdisciplinary, multimessenger aspects

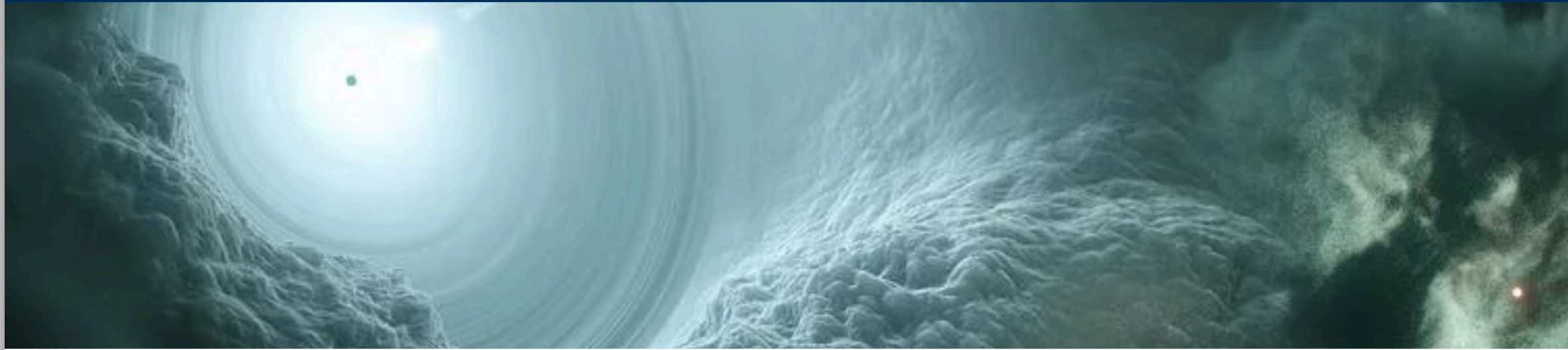
EuCAPT Website



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

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...



The European Consortium for Astroparticle Theory

Join the EuCAPT mailing list and receive our newsletter by following [this link](#).

If you have a CERN account, you can just sign in. If not, you can quickly set up a lightweight account (it will take you a few minutes), and get access.


Please use your real name when signing up, and if possible an institutional email address. This will make it easier for us to contact you if needed.

Previous issues of the newsletter are published below.

Andrew Taylor · for 6 dagar sedan

October EuCAPT newsletter (the pulse!)

Continuing our regular EuCAPT newsletters, this is our October issue. The newsletter is aimed at keeping you informed of recent/upcoming theoretical astroparticle physics related developments, with focus on Europe.



The European Consortium for Astroparticle Theory

Virtual colloquia

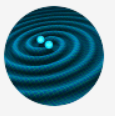
The consortium will broadcast a series of colloquia aimed at the entire EuCAPT community. Follow [this link](#) to access the schedule of future colloquia, as well as video recordings of past events.

Annual Symposium

The EuCAPT annual symposium is the flagship event of our consortium. It aims to provide an interdisciplinary Europe-wide forum to discuss opportunities and challenges in Theoretical Astroparticle Physics and Cosmology. The first Annual Symposium is scheduled for 5th - 7th May 2021.

Past EuCAPT Events:


EuCAPT Workshop, *Gravitational Wave Probes of Fundamental Physics*, 11-13 November, 2019, Amsterdam



EuCAPT Virtual Colloquia

Monthly virtual colloquia of the European Consortium of Astroparticle Theory (EuCAPT) on Tuesdays of the month at 15pm CET.


[Link](#)



CERN Theory

CERN Theory is a mailing list for all events easily accessible to everyone, from standard seminars to informal "virtual colloquia", i.e. discussion sessions directed to specific research areas. An updated list of events is available through our [CERN Theory calendar](#). Clicking on the event title you will be directed to the corresponding link in the [calendar](#). Everyone is welcome to give, but guests must sign up with their full names; anonymous participation is not allowed.

[Link](#)



Elusives / HIDDEN Webinars

Webinar series organised in the framework of the Elusives (H) webinar series, spanning a variety of topics ranging from astroparticle physics and cosmology to colliders, model building and phenomenology related to dark matter, neutrinos, dark energy and other newly interesting particles. Sessions are held every two weeks on Tuesdays at 15pm European Central Time, using the Blackboard Collaborate system. After the Elusives (H) ends, the webinars will continue in the framework of the a similar (H) called HIDDEN.


[Link](#)



On-line "Newton 1665" seminars

Online seminars about phenomenology/theory/astroparticle, and more, organised by R. Pansegrau, A. Hebebrand, K. Kannike, L. di Luzio, M. Hasegawa, P. Ferrar, M. Bell, A. Dornic, D. Torres, A. Tesi, R. Torre, A. Urbano et al. No fixed dates, see link for schedule.

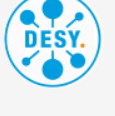
[Link](#)



Oskar Klein Centre Colloquia

Weekly seminars in astroparticle physics and cosmology hosted by the Oskar Klein Centre in Stockholm. Tuesdays at 12:15 - 14:00.

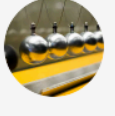
[Link](#)



Particle and Astroparticle Physics Colloquium Hamburg

Joint colloquia between DESY and U. Hamburg, in the context of an Excellence Cluster. They take place on Tuesdays at 16:00 CET.


[Link](#)



VIA Lectures

Astroparticle Physics webinars streamed with Adobe Connect, organised by M. Klopfer at VIA.

[Link](#)



Virtual Particle Physics in Paris

Particle Physics in Paris is a series of meetings among all gathering the particle and astroparticle physics community of the Paris area around a distinguished invited speaker. This series of events is currently remotely and announced as Virtual Particle Physics in Paris (VPP).

[Link](#)

EuCAPT Newsletter



- Sent monthly to
~800+ scientists

- Very positive
feedback from the
community

- Archived on the
website

Newsletter 22 September 2020

It's a pleasure to kick-off our monthly EuCAPT newsletters, which will be sent out around 22nd of each month. The aim of these newsletters is to keep you efficiently informed of recent/upcoming theoretical astroparticle physics related developments in Europe.

General News:

EuCAPT symposium -- due to the present Covid-19 pandemic situation, our first symposium has now been postponed. We are presently arranging for this meeting to be moved to Spring next year (in a likely hybrid format - more information soon to follow).

Recent Press Releases:

Summer 2020 has seen quite a few major astroparticle physics results:

<https://www.appec.org/latest-news>

I take advantage to note a few results specifically:

["The Universe" largest particle accelerators are a whole lot bigger"](#)

["Strange gamma-ray heartbeat puzzles scientists"](#)

Upcoming Events:

The EuCAPT webpage provides an up-to-date list of upcoming European astroparticle physics events:

<https://www.eucapt.org/events>

Additionally, we would like to highlight:

[PONT Avignon 2020 conference \(7-11 Dec 2020\)](#)

["Virtual Axion Institute" - mattermost discussion forum \(+ recorded presentations\)](#)

Upcoming Seminars:

Similarly, the EuCAPT webpage provides an up-to-date list of upcoming astroparticle physics seminars scheduled in Europe:

<https://www.eucapt.org/virtual-meetings>

If you would like to add a seminar series to this list, please contact david.marsh@fysik.su.se.

Please also note the interesting broad audience talks:

["Mistakes on the way to a good idea: Peccei-Quinn Symmetry. A tribute to Roberto Peccei"](#)

(24 Sep @6pm CET):

["Two-body dynamics and gravitational waves in general relativity"](#) (28 Sep @9am CET- registration necessary)

Job Opportunities:

<https://indico.mitp.uni-mainz.de/event/223/>

https://jobs.dsi.infn.it/dettagli_job.php?id=2811

<https://inspirehep.net/jobs/1817620>

<https://nbia.nbi.ku.dk/programs/interactions>

<https://www.epfl.ch/labs/phe/en/phd-positions/>

Call for [EuCAPT Volunteer](#), (PhD or postdoc)- the deadline for applicants is 18th Oct (those interested should contact david.marsh@fysik.su.se)

We appreciate that the current times are rather testing, and that there's a strong need to have efficient information flow around the community. With this in mind please feel to contact us on particular information that you feel would be suitable for circulation in future newsletters (eucapt.info@gmail.com).



October EuCAPT newsletter (the pulse!)

Continuing our regular EuCAPT newsletters, this is our October issue. The newsletter is aimed at keeping you informed of recent/upcoming theoretical astroparticle physics related developments, with focus on Europe.

General News:

The new date for the Inaugural EuCAPT Symposium is 5-7 May 2021 (a hybrid format is planned).

Recent Press Releases:

Recent months have seen quite a few major astroparticle physics results:

<https://www.appec.org/latest-news>

Of particular note are:

["Massive Gravitational Wave Binary"](#)

["New Feature in UHECR Spectrum Uncovered"](#)

Upcoming Events:

The EuCAPT webpage provides an up-to-date list of upcoming astroparticle physics events:

<https://www.eucapt.org/events>

Upcoming Seminars Calendar:

We now provide a virtual meetings calendar to help advertise relevant

upcoming meetings:

<https://www.eucapt.org/virtual-meetings>

(if you wish additional events to be added, please contact us)

Discussion Forum

We invite you to join our EuCAPT discussion forum on mattermost: [link](#).

This has been set up to facilitate open discussion within our EuCAPT community.

Job Opportunities:

[INSPIRE](#)

[OKC](#)

[NBI](#)

[MPIK](#)

[EPFL](#)

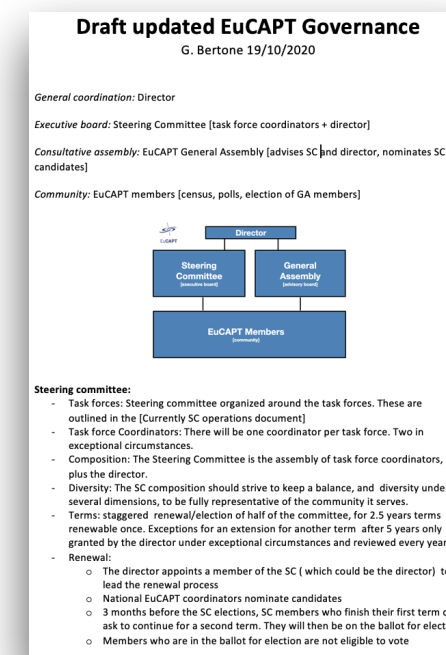
We appreciate that these are difficult times, and that there's a strong need to have efficient information flow around the community. With this in mind please feel to contact us with any information that you feel may be suitable for circulation in future newsletters (eucapt.info@gmail.com).



EuCAPT Governance



- We are ready to move on with new governance
- We will invite all European institutions to join
- One member per institution (or group of institutions with collectively more than 20 members) will join the EuCAPT council
- Council will elect next SC members and director
-



- o If more than half of the SC members ask to continue for a second term, the director can approve the request of a number of SC members sufficient to guarantee that at least half of the SC members are not on ballots and can vote for new SC members
- o A ballot is presented to voting SC coordinators. It can contain members for renewal and new members
- Resignation: Any member can resign by giving notice to the director
- Removal: Any member can be removed with approval by a majority (half +1) vote of the committee.
- Vacancy: Vacancies should be filled by a majority (half +1) vote of the voting members of the committee at the election time. If a vacancy arises before the end of the normal term and off-peak with the election calendar the director can appoint an interim member which mandate is valid only until the beginning of the next term.

General Assembly

- Each country shall elect a representative (a Chair) who will be the contact point for the steering committee and the director. The duty of this chair is to keep the members informed and engaged, and to represent their voice.
- Interim: Initially, the director will appoint an interim chair, subsequent chairs will be elected
- Term: The chair has a 2.5 years term renewable once.
- Election: Procedure will be communicated via the EuCAPT website. The renewal of the chair must happen keeping in mind several considerations, including skills, expertise, balance and diversity
- Nomination of SC candidates: The SC election coordinator will ask national chairs to propose three names for positions in the steering committee. The voting members of the steering committee will vote to select new members from this pool, keeping in mind several considerations, including skills, expertise, balance and diversity.

Change of governance

These governance rules can be changed at any time by consensus of the committee. If consensus is not possible but a change is really needed, then agreement of 2/3 of the steering committee will suffice.

Sensus

A census shall be taken every 5 years

Vice director

The director should have a vice director to be elected by the steering committee among the steering committee members. The vice director term should be staggered w.r.t. the director, to guarantee continuity and institutional memory

Director

Election of the director every 2.5 years. Renewable once. Elected by the SC. Candidates to be submitted by national contact points.

Will soon send out invitations to institutions, to formally join EuCAPT, stay tuned!

EuCAPT White Paper



EuCAPT White Paper

Opportunities and Challenges for Theoretical Astroparticle Physics in the Next Decade



Abstract

Astroparticle physics is undergoing a profound transformation, due to a series of extraordinary new results, such as the discovery of high-energy cosmic neutrinos with IceCube, the direct detection of gravitational waves with LIGO and Virgo, and many others. This white paper is the result of a collaborative effort that involved hundreds of theoretical astroparticle physicists and cosmologists, under the coordination of the European Consortium for Astroparticle Theory (EuCAPT). Addressed to the whole astroparticle physics community, it explores upcoming theoretical opportunities and challenges for our field of research, with particular emphasis on the possible synergies among different subfields, and the prospects for solving the most fundamental open questions with multi-messenger observations.

All authors (coordinators and contributors) in alphabetic order here. Coordinators names in **boldface**. TO DO - check for affiliations being listed more than once¹. M. A. Amin², R. Alves Batista³, G. Barenboim⁴, N. Bartolo⁵, **D. Baumann**⁶, A. Bauswein⁷, E. Bellini⁸, D. Benisty⁹, **G. Bertone (Editor)**¹⁰, C.G. Böhrer¹¹, Ž. Bošnjak¹², T. Bringmann¹³, C. Burrage¹⁴, M. Bustamante¹⁵, J. Calderón Bustillo¹⁶, **C. T. Byrnes**¹⁷, **F. Calore**¹⁸, R. Catena¹⁹, S. S. Cerri²⁰, M. Chianese²¹, K. Clough²², A. Cole²³, P. Coloma²⁴, A. Coogan²⁵, **L. Covi**²⁶, D. Cutting²⁷, A.C. Davis²⁸, C. de Rham²⁹, A. di Matteo³⁰, G. Domènech³¹, M. Drewes³², T. Dietrich³³, T. D. P. Edwards³⁴, I. Esteban³⁵, R. Erdem³⁶, M. Fasiello³⁷, S. M. Feeney³⁸, R. Z. Ferreira³⁹, A. Fialkov⁴⁰, N. Fornengo⁴¹, C. Guépin⁴², J. Harz⁴³, M. Herrero-Valea⁴⁴, N. B. Hogg⁴⁵, D. C. Hooper⁴⁶, F. Iocco⁴⁷, J. Isern⁴⁸, A.R. Kahife⁴⁹, K. Karchev⁵⁰, B. J. Kavanagh⁵¹, M. Korsmeier⁵², **K. Kotera**⁵³, K. Koyama⁵⁴, B. Krishnan⁵⁵, J. Levi Said⁵⁶, L. Lombriiser⁵⁷, C. S. Lorenz⁵⁸, S. Manconi⁵⁹, M. Mapelli⁶⁰, A. Marcowith⁶¹, **S. B. Markoff**⁶², **D. J. E. Marsh**⁶³, M. Martinelli⁶⁴, C.J.P. Martins⁶⁵, **J. H. Matthews**⁶⁶, A. Meli⁶⁷, **O. Mena**⁶⁸, J. Mifsud⁶⁹, M. M. Miller Bertolami⁷⁰, P. Millington⁷¹, **P. Moesta**⁷², K. Nippel⁷³, E. O'Connor⁷⁴, F. Oikonomou⁷⁵, C. F. Paganini⁷⁶, G. Pagliaroli⁷⁷, P. Pani⁷⁸, C. Pfrommer⁷⁹, L. Pilo⁸⁰, L. Pizzuti⁸¹, **R. A. Porto**⁸², A. Pound⁸³, G. G. Raffelt⁸⁴, F. Quevedo⁸⁵, A. Raccanelli⁸⁶, M. Raveri⁸⁷, S. Renaux-Petel⁸⁸, A. Ricciardone⁸⁹, **A. Riotto (Editor)**⁹⁰, R. Roiban⁹¹, J. Rubio⁹², M. Sahlen⁹³, N. Sakti⁹⁴, L. Sagunski⁹⁵, N. Šarčević⁹⁶, K. Schmitz⁹⁷, P. Schwaller⁹⁸, **T. Schwetz**⁹⁹, A. Sedrakian¹⁰⁰, E. Sellentin¹⁰¹, A. Serenelli¹⁰², P.D. Serpico¹⁰³, E. I. Sfakianakis¹⁰⁴, S. Shalgar¹⁰⁵, **A. Silvestri**¹⁰⁶, **I. Tamborra**¹⁰⁷, K. Tanidis¹⁰⁸, D. Teresi¹⁰⁹, A. A. Tokareva¹¹⁰, L. Tolos¹¹¹, S. Trojanowski¹¹², **R. Trotta**¹¹³, C. Uhlemann¹¹⁴, F. R. Urban¹¹⁵, F. Vernizzi¹¹⁶, A. van Vliet¹¹⁷, F. L. Villante¹¹⁸, A. Vincent¹¹⁹, **C. Weniger**¹²⁰, Arne Wickenbrock¹²¹, W. Winter¹²², S. Zell¹²³, and M. Zeng¹²⁴

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¹⁵ Faculty of Electrical Engineering and Computing, University of Zagreb, Unska ul. 3, 10000 Zagreb, Croatia
¹⁶ Department of Physics, University of Oslo, Box 1048, N-0316 Oslo, Norway
¹⁷ School of Physics and Astronomy, University of Nottingham, University Park, Nottingham NG7 2RD, United Kingdom
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¹⁹ Instituto Galego de Física de Altas Enerxías, Universidade de Santiago de Compostela, E-15782, Santiago de Compostela, Spain
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²³ Chalmers University of Technology, Department of Physics, SE-412 96 Göteborg, Sweden
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²⁷ INFN - Sezione di Napoli, Complesso Univ. Monte S. Angelo, I-80126 Napoli, Italy
²⁸ Astrophysics, University of Oxford, DWB, Keble Road, Oxford OX1 3RH, UK
²⁹ Gravitation Astroparticle Physics Amsterdam (GRAPPA), Institute for Theoretical Physics Amsterdam and Delta Institute for Theoretical Physics, University of Amsterdam, Science Park 904, 1098 XH Amsterdam, The Netherlands
³⁰ Instituto de Física Teórica UAM/CSIC, Universidad Autónoma de Madrid, C/ Nicolás Cabrera 13-15, Cantoblanco, 28049, Madrid, Spain

- Focus on future: challenges and opportunities for theoretical astroparticle physics
- 10 research areas, 2/3 coordinators for each
- Paper is ready!
- Input via Mattermost + dedicated sessions at annual symposium
- ~125 authors, possibility to endorse it via the EuCAPT website

Presentation of White Paper

Florence Multi-Messenger Astrophysics Workshop (FMMAW) AHEAD2020/APPEC/EGO

- **Workshop with emphasis on**
 - theory
 - review of
 - MMA observatory capabilities
 - follow-up telescope networks
 - analysis groups
 - low latency alerts
 - needs, speeds, standardisation, definition of thresholds, IT technology
- **When ?**
- **Where ?** Florence
 - Vila Finaly (if half presential). Locus of "Florence process on CMB": 5 workshops
 - elsewhere (E.g. cinema Odeon, if presential)
- **Program**
 - 1 day on theory
 - 3 days MMA links of the observatories/followup
 - 1 day on low latency technologies

Florence CMB workshops



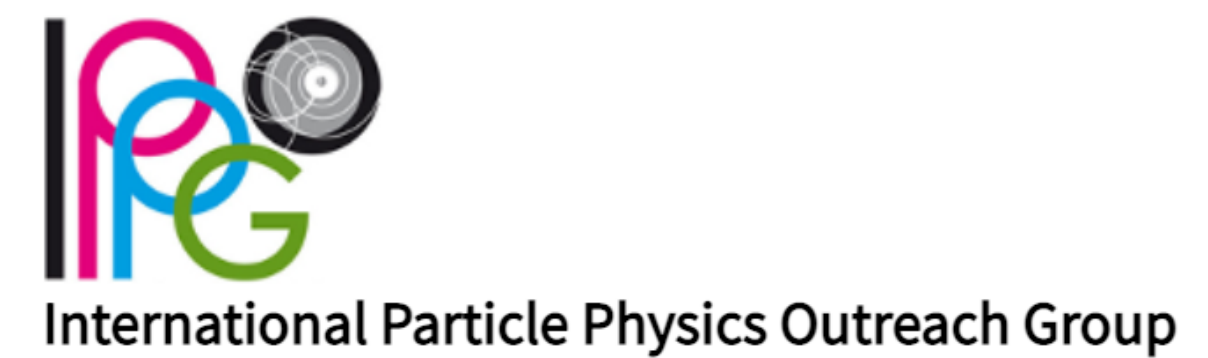
EuCAPT Outreach



PREMIO COSMOS
per la divulgazione scientifica

MENU

PREMIO COSMOS
PER LA DIVULGAZIONE SCIENTIFICA

The image shows a screenshot of the Premio Cosmos website. At the top, there is a dark blue header with the Premio Cosmos logo and name on the left, and a "MENU" button with a hamburger icon on the right. Below the header is a large, high-resolution image of the planet Jupiter, showing its characteristic bands and the Great Red Spot. At the bottom of the image area, the text "PREMIO COSMOS" is written in large white letters, with "PER LA DIVULGAZIONE SCIENTIFICA" in smaller white letters underneath.



EuCAPT

Thanks!