

# Outreach activities at ECAP

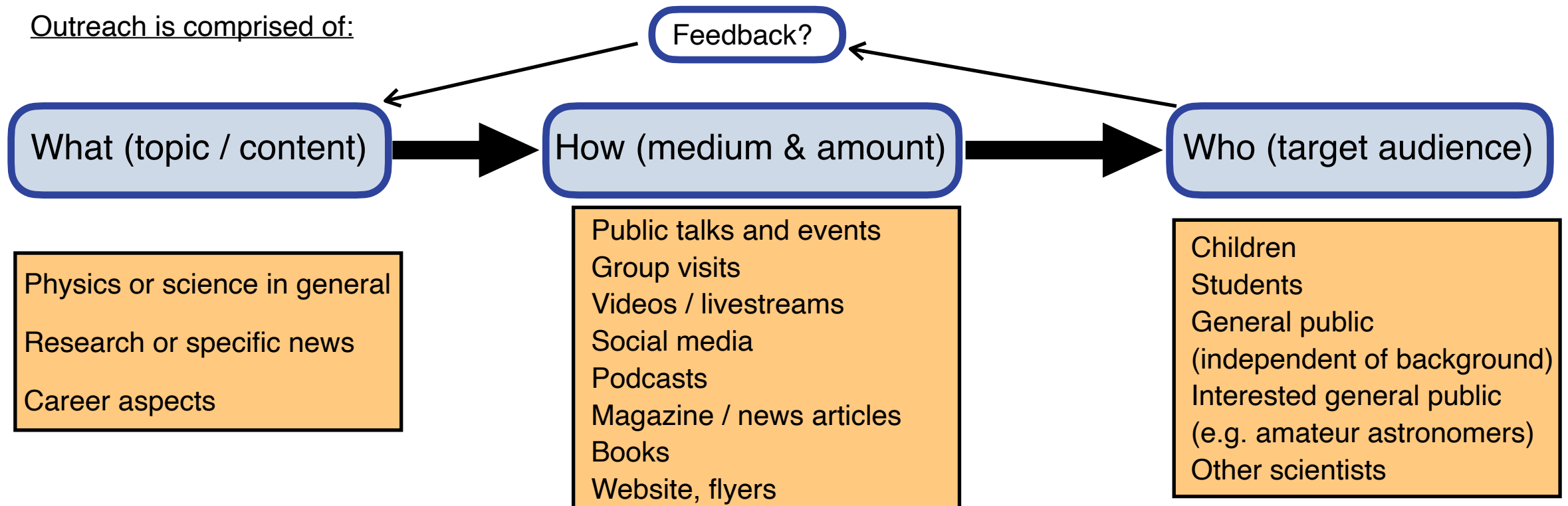
Dr. Alison Mitchell  
Junior research group leader  
20th March 2024

# Why outreach?

Science communication —> education, inspiration, information

Use of public funding —> duty to report, support for fundamental research, inform about future developments

Outreach is comprised of:





# The Long Night of Science

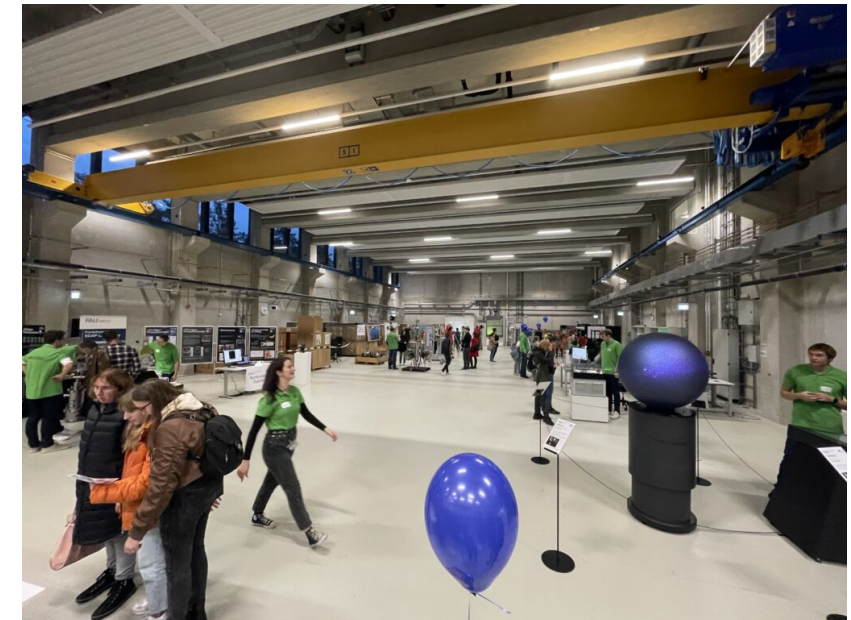
Regional open day that takes place every two years

Institute open to visitors through afternoon and evening until ~midnight.

Saturday 21st October 2023 → more than 1100 visitors to ECAP!

Kids programme with fun experimental activities

Exhibition in construction lab for the main programme



# Events promoting diversity in science

“Mädchen und Technik” —> Girls and technology (Katrin Streil)

A day of practical activities to promote girls and women in STEM fields  
(Science, Technology, Engineering and Mathematics, “MINT” auf Deutsch)

Practical experiments at ECAP e.g. solar telescope



DIPHER (Diversity in Physics Erlangen) first conference in 2022

Planning now for 2024 edition

(Prof. Gisela Anton,  
Prof. Manami Sasaki,  
Prof. Kristina Giesel)



Semi-regular visits from school groups at FAU

e.g. talk to ~12 physics students (final year) on 24th January for their project on stars

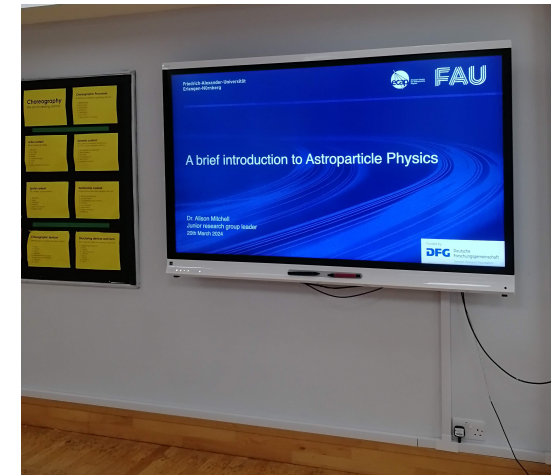
e.g. talk to ~100 students aged ~15-16 on 27th February about ECAP research more generally

School groups touring the ECAP building and laboratory spaces

Visited my former school in Brighton, UK on 20th March:

- School assembly with 7-11 year olds
- Physics lesson with 17-18 year olds
- General presentation with 14-16 year olds

Many other ECAP members have guided school groups or visited schools to give presentations.  
(Johannes Schäfer, Jelena Celic...)



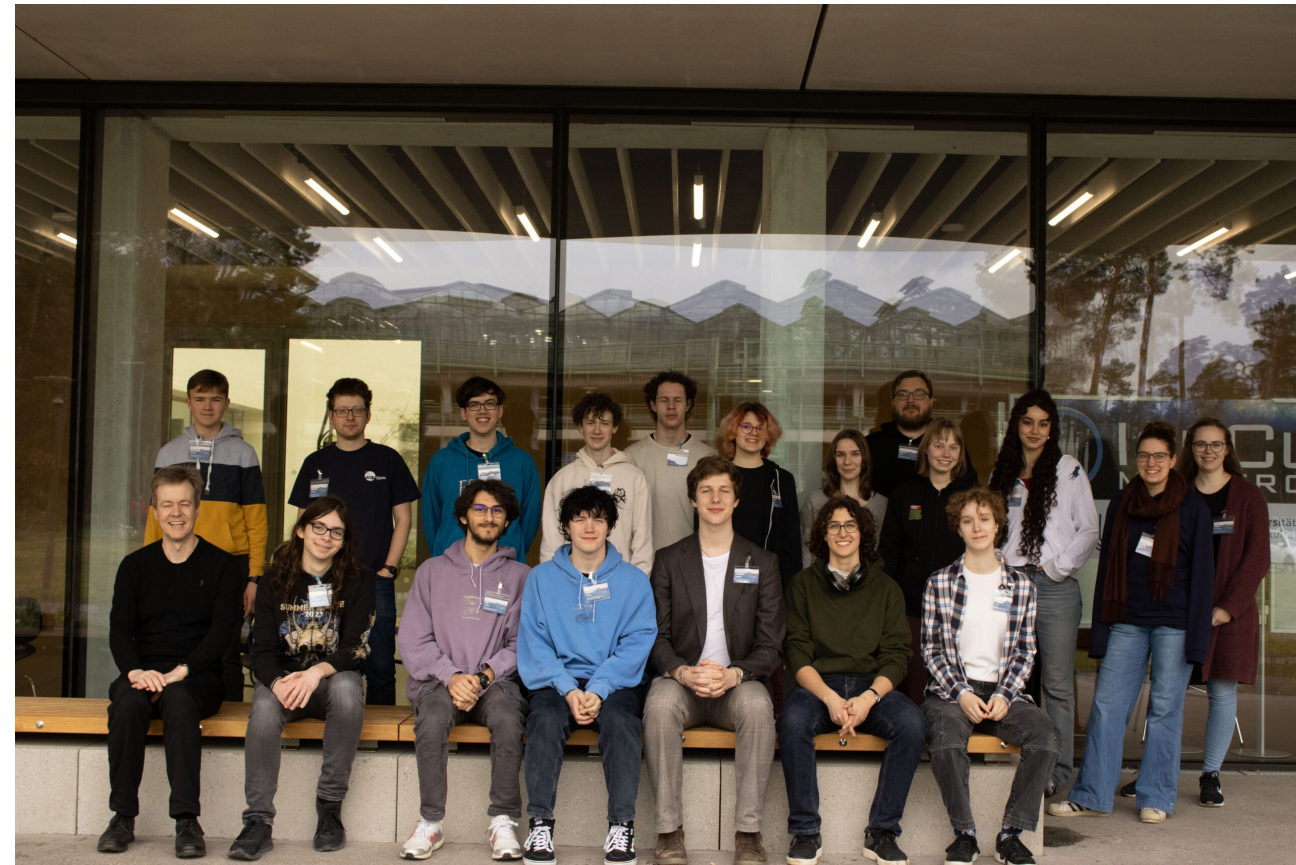


ECAP is a member of “Netzwerk Teilchenwelt”  
— particle physics network

One day masterclass:

- Lectures on specific topics
- Hands-on sessions  
(e.g. experiments)
- Interview or zoom with a scientist

IceCube masterclass at ECAP on 28/3/24





# Public talks — in person and online

Visit to astronomy group in Nuremberg (Prof. Christopher van Eldik)

Haus der Astronomie (House of Astronomy) in Heidelberg, Germany  
—> online evening lectures run during the pandemic

Evening talk at Magnus Haus Berlin  
(June 2023)

ICRC (International Cosmic Ray Conference)  
Usually incorporates a public evening talk  
in the local language



Faszination Astronomie Online  
#FasziAstroOnline  
[www.haus-der-astronomie.de/faszi-astro-online](http://www.haus-der-astronomie.de/faszi-astro-online)


Dienstag, 8. November 2022 um 19 Uhr live  
**Die Suche nach dem Ursprung  
galaktischer kosmischer Strahlung  
mit Gamma-Astronomie**  
Dr. Alison Mitchell, Friedrich-Alexander-Universität Erlangen-  
Nürnberg

Illustration: DESY / H.E.S.S. Science Communication Lab

# Social Media

Key — adapt format to the platform to leverage reach

## Examples: Facebook



Erlangen Centre for Astroparticle Physics

Intro

Page · University


Erwin-Rommel-Straße 1, Erlangen, Germany

ecap.nat.uni-erlangen.de


Not yet rated (0 reviews)

Photos


See All Photos




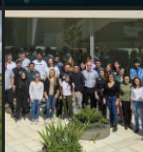
Die Lange Nacht der Wissenschaften  
Nürnberg-Fürth-Erlangen  
Sa 21.10.2023  
17-24 Uhr




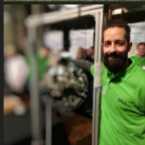
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Erlangen Centre for Astroparticle Physics is at Erlangen Centre for Astroparticle Physics.


17 May 2023 · Erlangen ·

From May 8th to May 12th ECAP hosted the first in a series of two workshops in multi-messenger high energy astrophysics between the Astroparticle Physics groups of the FAU Erlangen-Nürnberg and the São Carlos Institute of Physics – University of São Paulo. The workshops are jointly funded by the Bavarian Academic Center for Latin America (BAYLAT) and the São Paulo Research Foundation (FAPESP).


The event focussed on establishing collaborative ties between the groups at the PhD and postdoc level and was organised in the spirit of an open atmosphere with ample time for interactions and discussions. We heard keynote presentations from colleagues in gamma-ray astronomy, neutrino astronomy, dark matter physics and theory. Participants highlighted in their evaluation of the workshop the great opportunities for networking and in particular the speed collaboration sessions which focussed on launching joint projects.

We look forward to the next workshop for updates on the projects, continuing to work together in the meantime.

Additional information can be found at the workshop page at:  
<https://indico.ecap.work/event/44/> #astrophysics #research #networking #astronomy #neutrino #gammaray #darkmatter #bavaria #saopaulo #brazil #germany



Jim Hinton and 5 others



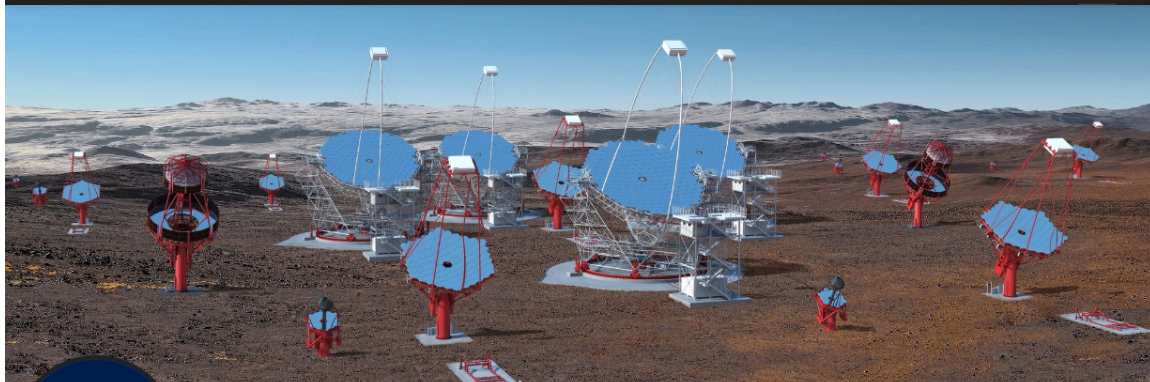
HESS Telescopes


3.4K followers · 27 following

Following

Message

Search





Cherenkov Telescope Array

3K likes · 3.3K followers

Message

Liked

Search

Posts

About

Mentions

Reviews

Reels

Photos

More

Intro

The Cherenkov Telescope Array Observatory (CTAO) will be the first ground-based gamma-ray observatory


Page · Observatory

Saupfercheckweg 1, Heidelberg, Germany


+49 6221 516471

Featured


Upcoming events



MON, 15 APR-18 APR  
CTAO Science Sym...  
25 Interested · 6 Going



TUES, 16 APR AT 19:30  
SAST  
DM DALL'UNIVERSO  
16 Interested · 3 Going



Cherenkov Telescope Array

25 September 2023 ·

#CTAOisgrowing

On 6 September, the CTAO's two governing bodies, the Board of Governmental Representative...

8



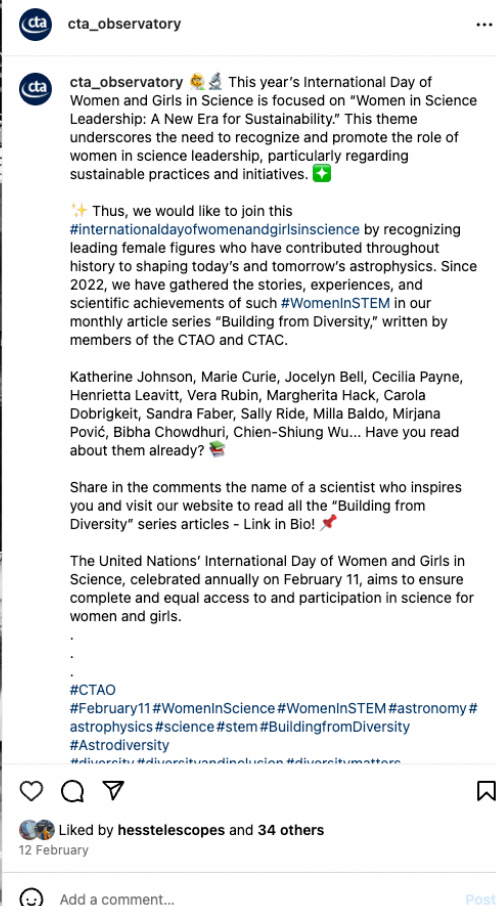
# Social Media

Key — adapt format to the platform to leverage reach

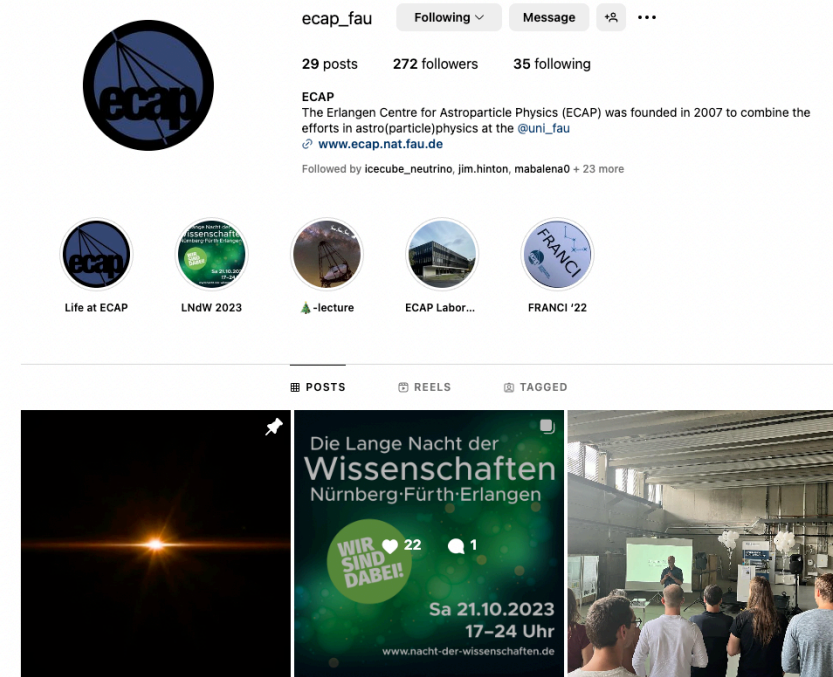
## Examples: Instagram



The poster features a collage of images of women in science. On the left, the CTA logo is displayed with the text "cherenkov telescope array". The main text reads "11 February International Day of Women and Girls in Science". Below this, it says "Building the future of astronomy on the work of pioneering women". A blue button contains the hashtag "#WomenInScience". At the bottom, the website "www.cta-observatory.org" and social media icons for Instagram, Facebook, X, LinkedIn, and YouTube are shown.



The Instagram post is from the account "cta\_observatory". The text of the post reads: "This year's International Day of Women and Girls in Science is focused on 'Women in Science Leadership: A New Era for Sustainability.' This theme underscores the need to recognize and promote the role of women in science leadership, particularly regarding sustainable practices and initiatives. 🌱 Thus, we would like to join this #internationaldayofwomenandgirlsinscience by recognizing leading female figures who have contributed throughout history to shaping today's and tomorrow's astrophysics. Since 2022, we have gathered the stories, experiences, and scientific achievements of such #WomenInSTEM in our monthly article series 'Building from Diversity,' written by members of the CTAO and CTAC. Katherine Johnson, Marie Curie, Jocelyn Bell, Cecilia Payne, Henrietta Leavitt, Vera Rubin, Margherita Hack, Carola Dobrigkeit, Sandra Faber, Sally Ride, Milla Baldo, Mirjana Pović, Bibha Chowdhuri, Chien-Shiung Wu... Have you read about them already? 📖 Share in the comments the name of a scientist who inspires you and visit our website to read all the 'Building from Diversity' series articles - Link in Bio! 📖 The United Nations' International Day of Women and Girls in Science, celebrated annually on February 11, aims to ensure complete and equal access to and participation in science for women and girls. #CTAO #February11 #WomenInScience #WomenInSTEM #astronomy #astrophysics #science #stem #BuildingfromDiversity #Astrodiversity #diversity #diversityandscience #diversitymatter". The post has 22 likes and is dated 12 February.



The Instagram profile for "ecap\_fau" is shown. The profile picture is the ECAP logo. The bio states: "The Erlangen Centre for Astroparticle Physics (ECAP) was founded in 2007 to combine the efforts in astro(particle)physics at the @uni\_fau www.ecap.nat.fau.de". It shows 29 posts, 272 followers, and 35 following. Below the bio are several story highlights: "Life at ECAP", "LNDW 2023", "-lecture", "ECAP Labor...", and "FRANCI '22". The main feed shows a post titled "Die Lange Nacht der Wissenschaften Nürnberg·Fürth·Erlangen" with a green background and white text, dated "Sa 21.10.2023 17-24 Uhr".

# Social Media.....and student media?

Key — adapt format to the platform to leverage reach

(See also X/Twitter)

Make sure posts are up-to-date and regular!  
Share the burden of effort.

- A clearly identifiable handle / image across all platforms
- Link to website for the institute or facility
- Match format to platform!
- Tweet: sound bite + link or image & appropriate hashtags
- Instagram post: image is key, text belongs in caption, appropriate hashtags
- Short videos - reels / stories / TikTok?!
- Facebook: more suitable for longer video sharing & longer texts

Student radio interview / student newspaper  
(run at many universities)

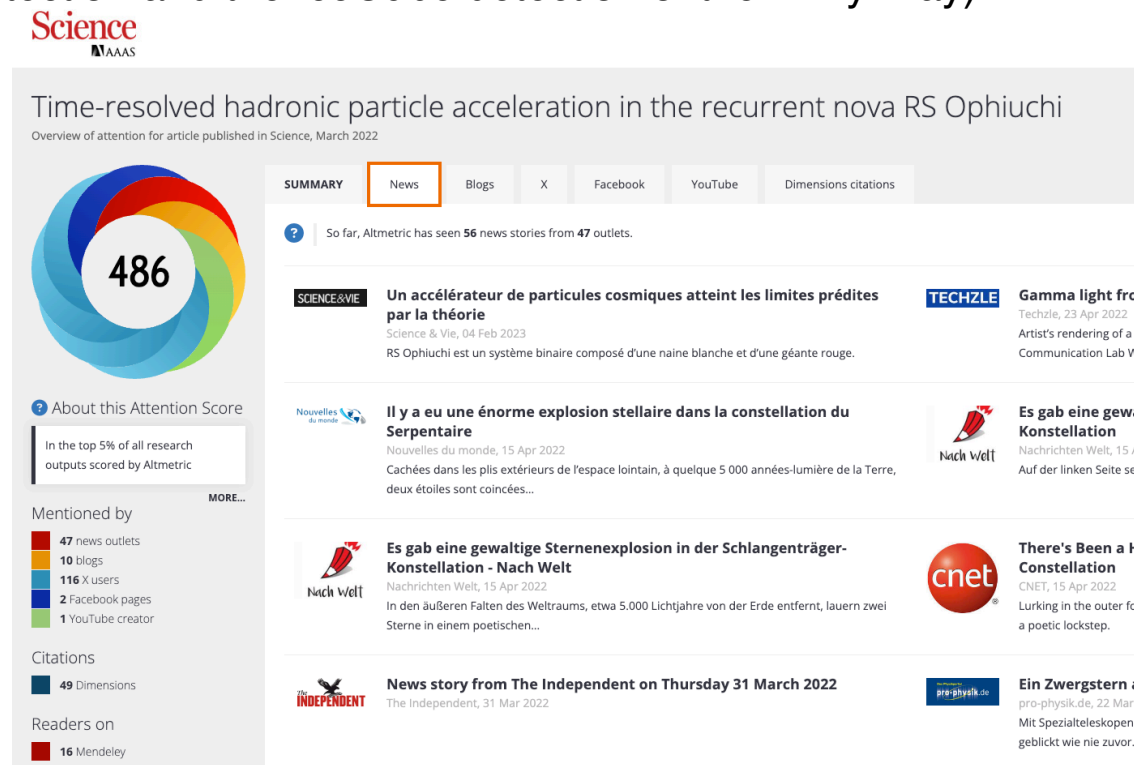




Publishing in other languages, e.g. article about the 20th anniversary of the HESS experiment in a popular astronomy magazine “Sterne und Weltraum”

Press releases about significant results

(e.g. RS Ophiuchi nova detection and the IceCube detection of the Milky Way)



# Other activities

Previously: **Physik für Flüchtlinge** —> Physics for Refugees

Enabling student-aged refugees to participate in physics lectures and experiments  
(without the hassle of university bureaucracy —> i.e. removing barriers)

Continuing: **Physik am Samstagmorgen**

Public lectures for school pupils on Saturday mornings  
during the university semester

Erlangen school pupil research weeks  
taking place in school holidays

e.g. “Cosmic week” 2-6 April 2024



**FAU** Friedrich-Alexander-Universität  
Naturwissenschaftliche Fakultät

**Sommer 2024** **Moderne Physik am Samstagmorgen**

4. Mai: Laser-basierte Teilchenbeschleuniger auf einem Chip - ein neues Werkzeug für die Strahlenmedizin? (Prof. Dr. Peter Hommelhoff)

15. Juni: Einblicke in die atomare Welt: Verstehen der geometrischen und elektronischen Struktur kohlenstoffbasierter Materialien (Prof. Dr. Sabine Maier)

29. Juni: Quantenverschränkung und der Physik-Nobelpreis 2022: Was Alice und Bob durch Korrelationsexperimente lernen (Prof. Dr. Daniel Burgarth)

Vorträge für alle Schülerinnen, Schüler und interessierte Laien im Sommer 2024 an der Universität Erlangen-Nürnberg

Samstags um 11:15 im Hörsaal G des Departments Physik (Staudtstr. 5, Erlangen) (Sebaldussiedlung, Linien 287 und 293, oder Nikolaus-Fiebiger-Straße, Linien 20 und 280) Eintritt frei

moderne-physik.de  
Organisation: Prof. Dr. Florian Marquardt

English language skills are not necessarily a good metric of scientific prowess.

Material in other languages lowers barriers to entry (e.g. undergraduate students).

Strongest argument for (e.g.) conference proceedings.

## Directory of Open Access Journals (DOAJ)

- Often provide at least a translation of abstract into English.
- Some journals provide full article translation.
- Peer review in language of submission.

(Frequency varies with subject area)



The screenshot shows the DOAJ (Directory of Open Access Journals) homepage. The header includes the DOAJ logo and the text 'OPEN GLOBAL TRUSTED'. Below the header, there are navigation links for 'SEARCH', 'DOCUMENTATION', and 'ABOUT'. The main content area features the text 'Find open access journals & articles.' and a search bar. The search bar has a dropdown menu set to 'In all fields' and a 'SEARCH' button. Below the search bar, there are statistics: 80 LANGUAGES, 134 COUNTRIES REPRESENTED, 13,596 JOURNALS WITHOUT FEES, 20,437 JOURNALS, and 9,990,037 ARTICLE RECORDS.

## DOAJ

26 indexed journals

⚙️ Refine search results

SEE JOURNALS...

- ☒ Without fees
- ☐ With a DOAJ Seal ✓
- ☐ Author retains all rights

SUBJECTS ▾

Search 532 subjects 🔍

- ☐ Music and books on Music
- ☐ Naval Science
- ☐ Philosophy. Psychology.

Religion

- ☐ Political science

☒ Science

☒ Astronomy

- ☐ Astrophysics

LANGUAGES ▾

- ☐ English (24)
- ☐ Portuguese (2)
- ☐ Russian (2)
- ☐ Bosnian (1)
- ☐ Croatian (1)
- ☐ Persian (1)



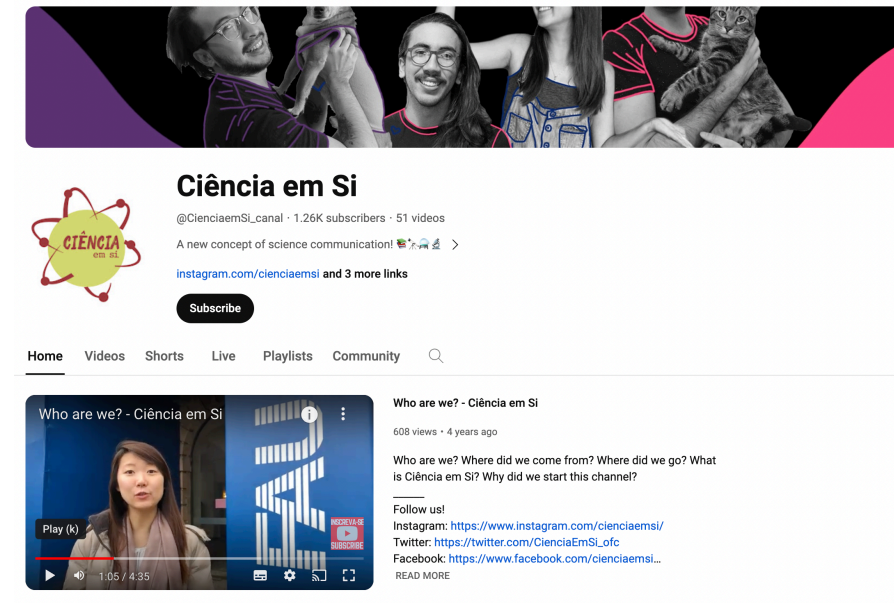
# What next?

Many - essentially all - ECAP members involved in outreach activities at some level.

Example for CTA —> dedicated person employed for science communication and outreach activities

Much more flexibility, but also more costs for institute / organisation.

Languages other than English —> promoting accessibility



Outreach sessions at collaboration meetings and conferences (e.g. CTAO, European Astronomical Society) help to acknowledge this important work.





