



# FCC Week 2021

PANOS  
CHARITOS CERN  
JUNE 30, 2021



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# FCC WEEK 2021

28 June – 2 July

ONLINE EVENT



FCC – The Future Circular Collider Innovative Study  
The BEACON Research and Innovation Accelerator  
and the Funding from the European Union Horizon  
2020 Programme under grant agreement No 764879.



# Public Events



## EASISchool 1

- Public event: “Forschung? Was geht mich das an!” with the participation of 2 ESRs (Alice Moros and Mattia Ortino). Co-organized with Vienna’s Natural History Museum and OAW.
- Contribution to the BE OPEN science and society festival (travelling FCC/CERN exhibition “The Code of the Universe” - co-produced with Editions Lammerhuber).
- The 2 events coincided with the Austrian Presidency of the EU (overlap with the ICRI 2018 conference in nearby venue).

## EASISchool 1

- 700 persons were personally invited to the two events (exhibition & public event)
- 270 guest (full-house) attended in person the public event.
- 3000 persons reached through a live Facebook Webcast of the event.
- Post-event networking reception with 120 guests including media representatives, industrial leaders and politicians.
- Publicly announced in Vienna via posters, event newspapers and via different social media channels. Press announcement by the Austrian Press Agency  
([https://www.ots.at/presseaussendung/OTS\\_20180906\\_OT50087/der-code-des-universums-eroeffnung-derfotoausstellung-am-sa-den-08-september-2018-um-1100-uhr-bild](https://www.ots.at/presseaussendung/OTS_20180906_OT50087/der-code-des-universums-eroeffnung-derfotoausstellung-am-sa-den-08-september-2018-um-1100-uhr-bild)).
- Series of interviews organized before and after the event with Michael Benedikt (FCC study leader), Rolf Heuer (CERN's former DG) and Georg Bednorz (Nobel-laureate).

# EASISchool 1

The exhibition “Code of the Universe” opened in Vienna, Austria on 8 September 2018 (11:00) as part of the BE OPEN Science & Society Festival.

First stop of an international tour that included public spaces in many European cities.



Duration: 7 Weeks

Visitors: ≈

- 250pp/day (spending more than 5')
- 30pp/day spending > 30')

School visits (during the Be OPEN science festival + part of visits to Vienna’s Natural History Museum.

# EASISchool 1

A dedicated **Media Training** was organised by **Terra Mater Factual studios** a subsidiary of **Red Bull Media House** in cooperation with Markus Mooslechner as consultant.

Bridging the gap between science and the public.

13 participants. The workshop was conducted by **Markus Mooslechner**, an award-winning science filmmaker & **Andreas Rottenschlager**, Deputy Editor-in-Chief of the internationally renowned RedBulletin Magazine.

Trainees were able to experiment directly with what they heard, thus developing a deeper understanding of the relationship between language and message. T



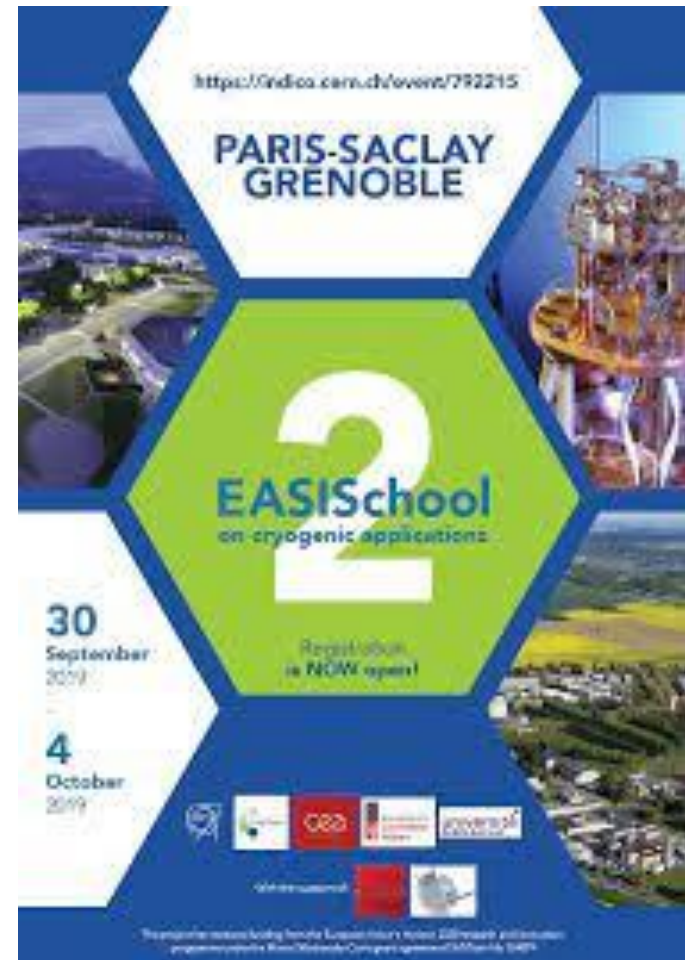
# EASISchool 2

-Prepare outreach & communication material.

-Co-organize a public event to mark the opening of the School. In his talk “A Future Circular Collider at CERN”, A. Blondel described the main challenges of designing a new generation of particle colliders at CERN.

-Opening of the travelling exhibition “Code of the Universe” in Campus MINATEC in Grenoble.

-Public conference “La cryogénie au service des découvertes scientifiques” (Cryogenics for scientific discoveries) concluded this EASITrain animation at the “Grenoble Fête de la Science 2019”.



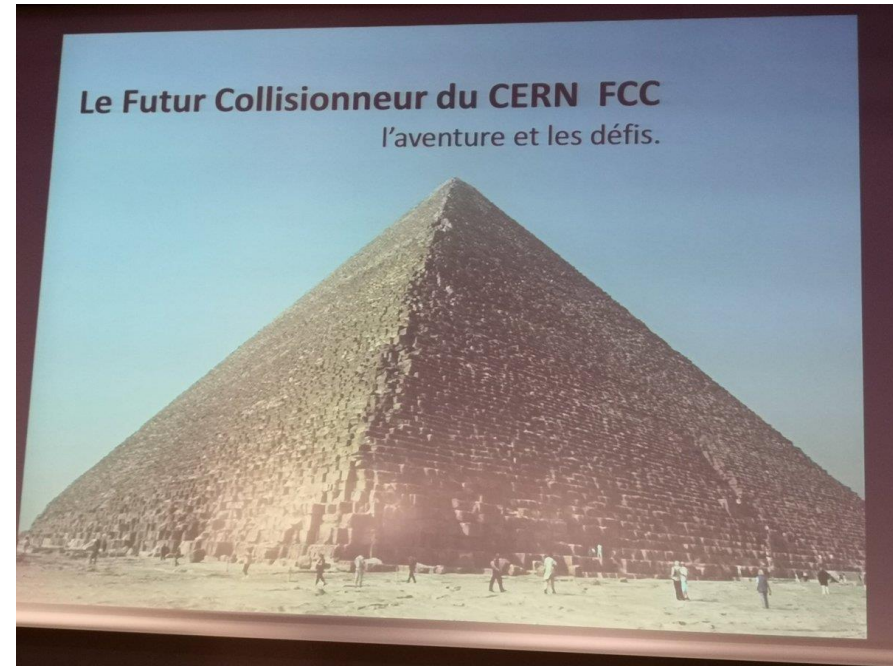
# EASISchool 2

Public Event: A Future Circular Collider at CERN

Co-organized with MINATEC at their campus in Grenoble.

**Audience size:** >250 participants (full-house) event

**Audience type:** scientists & engineers from different fields (outside HEP), university students



# EASISchool 2



Public exhibition opened in Campus Minatec in Grenoble

Duration: 2 months (16/09 - 18/11 - 2019)

Visitors: 100pp/day (avg. stay > 5')  
Included weekly school visits and a dedicated guided tour by ESR Jakub Tkaczuk.

Exhibition also included in French "Fête de la Science 2019" on the 10th and 12th of October 2019.

*Important Synergies with local authorities and science/public events.*







Engaging children in the physics of low temperatures during EASISchool 2



Group photo of ESRs who participated in EASISchool 2

# EASISchool 3

Challenging as it took place during the COVID19 pandemic. Hybrid format with in-person and remote presentations.

How to communicate given the challenges?

## Research background

Thin films for SRF R&D program at CERN

From bulk Nb to Nb/Cu: well established since LEP era

- Cu is a cheaper bulk material than Nb
- Cu has higher thermal conductivity at low temperatures than Nb
- Q-slope not fully understood

A15 compounds on Cu:

- Higher  $T_c$  = less cryopower: 9.3 K (Nb) vs 18.3 K (Nb<sub>3</sub>Sn) or 17.5 K (V<sub>3</sub>Si)
- Lower surface resistance = less dissipated power: 45 nW (Nb) vs 0.4 nW (Nb<sub>3</sub>Sn) @ 4.2 K and 500 MHz

→ Synthesize A15 crystalline phase

→ Achieve theoretical  $T_c$  on Cu substrate

→ Manage material stress and treatment affecting microstructural features hence RF performance

→ Role of intermediate layer (Nb, Ta, Ag...)

Graph showing Total Cryopower in MW vs  $R_{surf}$  in MV/m. The graph compares FCC-eef ( $R_{surf} = 4$ ), Nb/Cu (400 MHz, 4.5 K), LHC performance, ECR on flat sample, and Bulk Nb (800 MHz, 2 K). A potential Nb<sub>3</sub>Sn (800 MHz, 4.5 K, 20 nW) is also indicated. Source: S. Aull, FCC 2019.

08/10/2020 EASISchool 3 – Genoa

Dorothea Fomesu

5

+12 EB S GR JC

### People

- AP Alejandro Plaza
- AB Antonio Bianchi (Ospite)
- BS Beatrice Siri
- CG Conference Room Genova
- CP Cristian Pira (Ospite)
- DS Dorota Smakulska (Gość)
- DF **Dorothea Fomesu**
- EB Emilio Bellingeri  
Organizer
- GR Guillaume Jonathan Rosaz
- IP Isabel Gonzalez Diaz Palacio
- JC Jean-François CROTEAU (ME...)
- LC Lorena Vega Cid
- MR Marco Raimondo
- MK MASOOD RAUF KHAN (mkh...)
- M maxime.podeur
- PG Pablo Vidal Garcia

# EASISchool 3

Prepare outreach & communication material.

Public event in a hybrid format (limited audience & social media webcasted)

Travelling exhibition “Code of the Universe” - profit from the fact that it is an outdoor exhibition.

Integrated with “Festival della Scienza”

Last two days took place a [Researchers organised Workshop](#) (including guest speakers from the FCC study & ITER).

**EASISchool 3**  
**Superconductivity and its applications**  
Dates: 28/9/2020-9/10/2020  
Genoa, Italy

Register: <https://easischool3.web.cern.ch>

Organizers: CERN, UNIVERSITÀ DEGLI STUDI DI GENOVA, ASG, INFN, EASITrain, ESAS, European Union

The project is supported by the European Union Agreement for ITER

Image credit: cern/fotografia.com

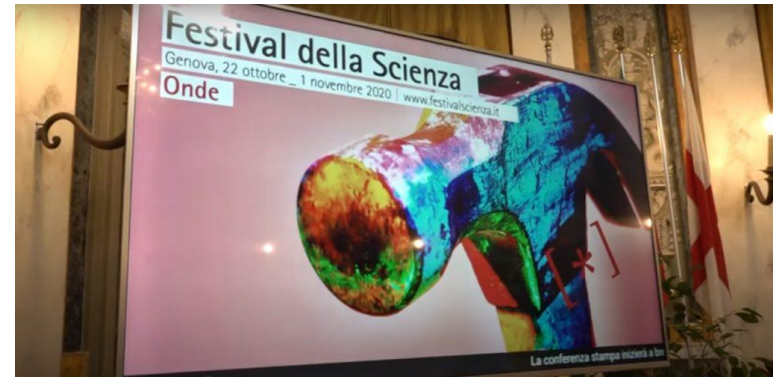
## EASISchool 3

“Code of the Universe” exhibition installed in Piazza De Ferrari in Genoa.

Duration: 6 weeks from end of September to the mid of November 2020 [before the new restrictions & 3rd wave of COVID19]

Visitors:  $\approx$  250 visitors/day (spending more than 5'). Profiting from the centrality of the location & warm autumn weather.

Included a number of schools visits as part of an itinerary created for the Festival della Scienza.



# EASISchool 3

- Opening of the “Code of the Universe” exhibition in Genoa followed previous opening in Trieste during the European Science Open Forum (ESOF 2020)



Agenzia Comunica > Events > "The Code Of The Universe", The Exhibition In Genoa Until November 1st

**"THE CODE OF THE UNIVERSE", THE EXHIBITION IN GENOA UNTIL NOVEMBER 1ST**



- Generate a buzz in Italy and covered by a number of national/local media:

Press Release by Consiglio Nazionale delle Reserche: <https://www.cnr.it/it/nota-stampa/n-9683/inaugurazione-mostra-the-code-of-the-universe-e-ciclo-eventi-sulla-superconduttivita>

<https://www.lavocedigenova.it/2020/10/01/leggi-notizia/argomenti/cultura-4/articolo/a-genova-la-mostra-the-code-of-the-universe-a-photographic-journey-of-discovery-video.html>

<https://www.mentelocale.it/genova/articoli/86222-genova-mostra-the-code-of-the-universe-installazioni-de-ferrari-particelle-superconduttivita.htm>

## EASISchool 3

Public event: “Genoa for superconductivity, superconductivity for us”

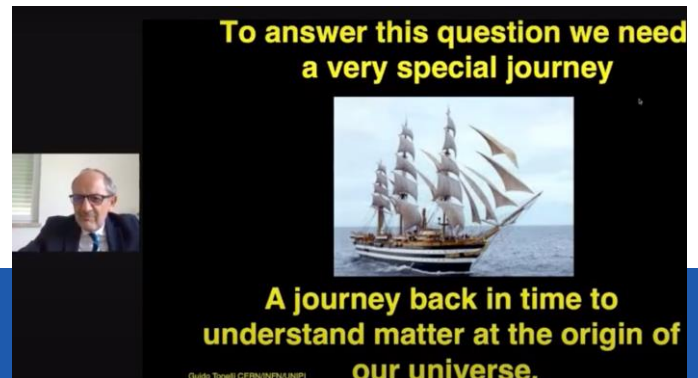
New venue: Palazzo Ducale (Sala di Conversazioni e Letture Scientifiche)

Event was webcasted with a limited audience in the venue. >1000 viewers online (267 on YouTube, 512 on FCC FB account and the rest from Twitter and other channels).

Special Guest: Guido Tonelli (University di Pisa, former spokesperson of CMS experiment). Coinciding with the publication of his latest book “Genesis”.

Recording available:

[https://www.youtube.com/watch?v=pOngSd3Lw6c&ab\\_channel=FestivaldellaScienza](https://www.youtube.com/watch?v=pOngSd3Lw6c&ab_channel=FestivaldellaScienza)



Took place at the CNR-Spin facility in Genoa.

Topics covered:

1. SRF (thin films, bulk, manufacturing, characterization, modelling)
2. Wires and magnets (Nb<sub>3</sub>Sn, HTS, Thallium-based, Tapes/wires, magnets)
3. Cryogenics (cryogenic refrigeration, cryogenics, heat transfer, thermodynamics, fluid dynamics)

Student workshop on  
Superconductivity  
and applications

OCTOBER  
8-9 2020

CNR-SPIN  
GENOA  
ITALY

CERN

EASITrain

SPIN

UNIVERSITÀ DEGLI STUDI  
DI GENOVA

Submit your  
abstract now at:  
<https://indico.cern.ch/event/933609/>

Guest speakers  
to be announced

Open-Access proceedings will be published at:  
<https://zenodo.org/communities/easitrain>



# Websites

## EASITrain Public Website (2018)

- Developed in HTML by formed FCC/EASITrain web manager.
- Used during the recruitment phase of the project & to communicate it to external stakeholders.
- Geographical Distribution & Thematic Distribution of the network.

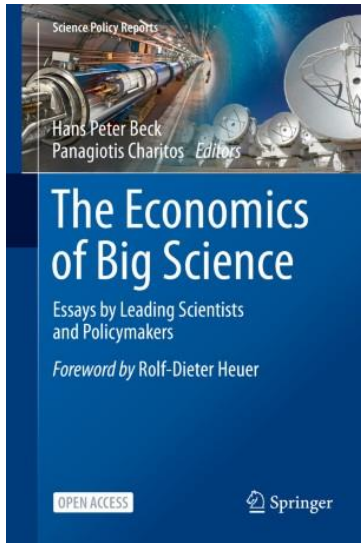


## EASITrainers (2020)

- Developed in Drupal 8 in collaboration with external expert.
- Featuring the updated profiles of the EASITrainers including the key skills obtained during EASITrain & main achievements.
- Mainly a tool for networking & job hunting



# Scientific publications



- 1) 36 Open Access scientific publications in ZENODO.
- 1) “The Economics of Big Science” published Springer/Nature (2020). OA: <https://www.springer.com/gp/book/9783030523909>. Contribution by L. Kretzschmar (WU Vienna University of Economics and Business)
- 1) A Focus On FCC-ee accelerator technologies collection of essays to be published after the FCC Week 2021 in EPJ Techniques & Instrumentation: (<https://epjtechniquesandinstrumentation.springeropen.com/>) .
- 1) IOP book “Debating Big Science in the 21st century” is on track. Contribution from WP5 P. Keinz (WU Vienna University of Economics & Business)



# EASITrain bulletin

Bimonthly publication with news and updates related to the EASITrain community.

9 issues have been produced with the support of the EASITrain office (A. Yaneva).

Well received, help strengthen the sense of community.

Stories also feed other publications (CERN Courier, Accelerating News):  
<https://acceleratingnews.web.cern.ch/news/issue-36/easitrain-esi/closed-loop-helium-turbocompressor-test-facility>

[View this email in your browser](#)



EASITrain – European Advanced Superconductivity Innovation and Training.  
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## NEWS FROM EASITRAIN

## TIME TO DISCUSS THE FUTURE

### Announcement of FCC November Week (NoW)

In 2019, the Future Circular Collider Study (FCC) published its Conceptual Design Report ([fcc.cdr.web.cern.ch](http://fcc.cdr.web.cern.ch)) exploring new concepts for the next generation of intensity and energy frontier colliders and the key enabling technologies. This year, and following the update of the European Strategy for Particle Physics (EPPS), the FCC November meeting Week, set to take



Full archive:

<https://fcc.web.cern.ch/easitrain/Documents/WP1/Project%20Management/Communications/EASITrain%20Newsletters>

# Collider Diaries

Collider Diaries

Season 1

(launch June 2021)

## Getting inside

What a group of young researchers  
left behind to get into the  
prestigious CERN research  
environment.

### Stewart Leith

how I skipped a well paying  
job and risked my two week  
shy marriage to get into  
CERN



### Dorothea Fonesu

how I built a tropical rainforest in  
my apartment to keep me sane  
during 16 hour workdays.



### Vanessa Garcia Diaz

My mother was a rule breaker  
and so am I.



Collider diaries is a quick series of 2-5 minute vignettes. Professionally shot interviews mixed with personal photos/video clips and memories from the interviewees' collections. Filming is done at and near CERN. Typical locations, depending on the interviewees are: private apartments, big-science research facilities, restaurants, Alpine landscape.

Collider Diaries is a social network web series



# A long journey starting from Day 0 (Kick-off meeting)



# Collider Diaries

Co-produced with TMFS over April - June 2021

Featuring 6 of the ESRs following a screening and interview process.

Teaser: <https://vimeo.com/558100695>

PW: CDT062021

First **four clips** are now available: Dorothea, Steward, Vanessa, Maxime. Pending: Alice & Aisha

Social media strategy to be launched during this week in coordination with Artik (running the MtF campaign) and CERN's ECO group. Ensure that we don't hamper the organic traffic.

**Innovation:** i) Given the travel restrictions (COVID19 pandemic) produced with footage (including videos & photos) taken by the ESRs. TMFS shipped special equipment for the interview.

ii) The clips were produced with the smallest possible ecological footprint. For this work TMFS received the Austrian Eco-label for sustainable production.

# Participating in Dedicated Workshops

JF Croteau. Panelist in the FCC special session during EuroScience Open Forum (ESOF) 2018, Toulouse France, July 2018.

Well-attended session:  
40-50 participants

& EASITrain participation in the  
ESOF2018 Poster Session.



Linn Kretzschmar -Leveraging the economic potential of FCC's technologies. (showcasing the work of WP5)

**“Economics of Science Workshop”**, Organized during FCC Week 2019 in partnership with the London School of Economics Alumni Association.

Well attended: 80 participants + 15 speakers from academia, Big Science organizations (CERN, ESA, SKA, ESS) and funding agencies (EC, STFC)



# A brief summary

- Prepare & planning: Carefully thinking about the intended message and reaction you hope to get from different audiences. EASITrain demonstrated the gradual build up of communication skills - starting from the kick-off meeting and exploiting a number of instances in the lifetime of the project.
- Provide Connectivity. With a built-in process for passing and receiving critical information, you'll create direct links from top to bottom and bottom to top.
- Open communication: The opinion of every member matters and an effort to balance them was key for the success of the communication activities carried out during the project. Give insights into different perspectives from the different actors.
- Exude Confidence: Need to communicate confidently and make the information disseminated and communicated to have complete meaning to your audience.



Thank you for your attention!