

# *Alternative Languages to Narrate Science and Scientific Research in Schools: Art & Science across Italy*

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On Behalf of Art&Science across Italy - Team*

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# What is Art&Science across Italy

**Art&Science Across Italy is a national project by INFN and CERN**

- Born in 2015 by P. Paolucci (INFN-Napoli), M. Hoch (Austria) and A. Alexopoulos (CERN)

**Dedicated to Italian high school students aged 16 to 18**

- Bring students closer to the world of science/physics and scientific research
- Highlight students' creativity
- Teach the basics of planning
- Educate to work in groups and carry out interdisciplinary activities

**Since I Edition in 2016, more than 10,000 students have participated**

# Art & Science across Italy

Un viaggio tra Scienza e Arte con l'Istituto Nazionale di Fisica Nucleare per le scuole secondarie di II grado



EDIZIONE  
2024 | 2026

BARI  
BIELLA  
BOLOGNA  
CAGLIARI  
CATANIA  
FERRARA  
FIRENZE  
FRASCATI  
GENOVA  
L'AQUILA / TERAMO  
LECCE  
MILANO  
NAPOLI  
PADOVA  
PERUGIA  
PISA  
POTENZA  
ROMA  
TORINO

30

**BORSE DI STUDIO**  
per un master al CERN  
e ai Laboratori dell'INFN

INFORMAZIONI | [artandscienceacrossitaly@gmail.com](mailto:artandscienceacrossitaly@gmail.com)

PATROCINIO

TGR

MEDIA PARTNERSHIP

Rai Radio 3

Rai Campania

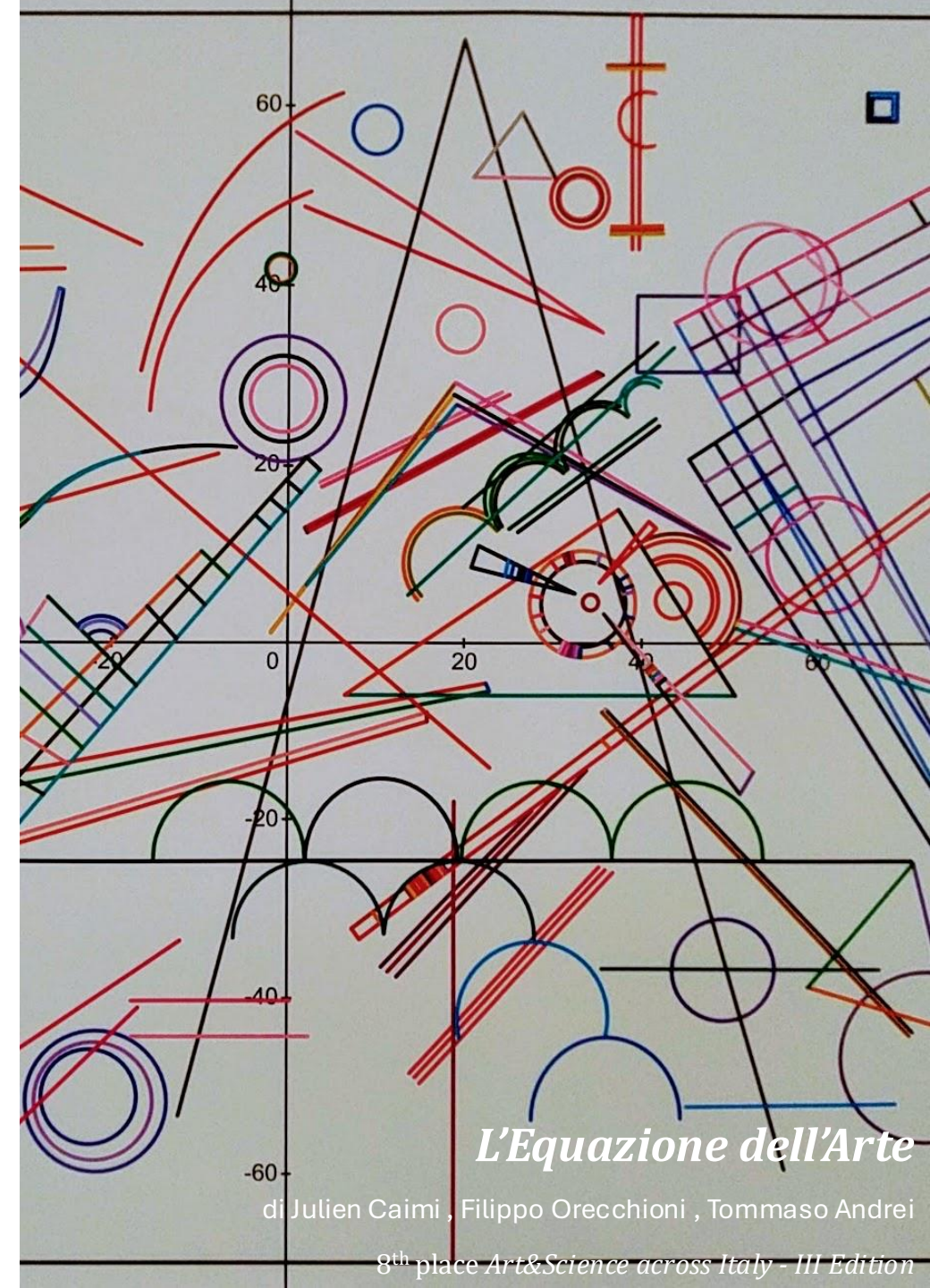
# Why Alternative Languages

Science can feel like a foreign language because it uses special symbols and words. Art and creativity can help students understand it better.

Alternative Languages to Narrate Science:

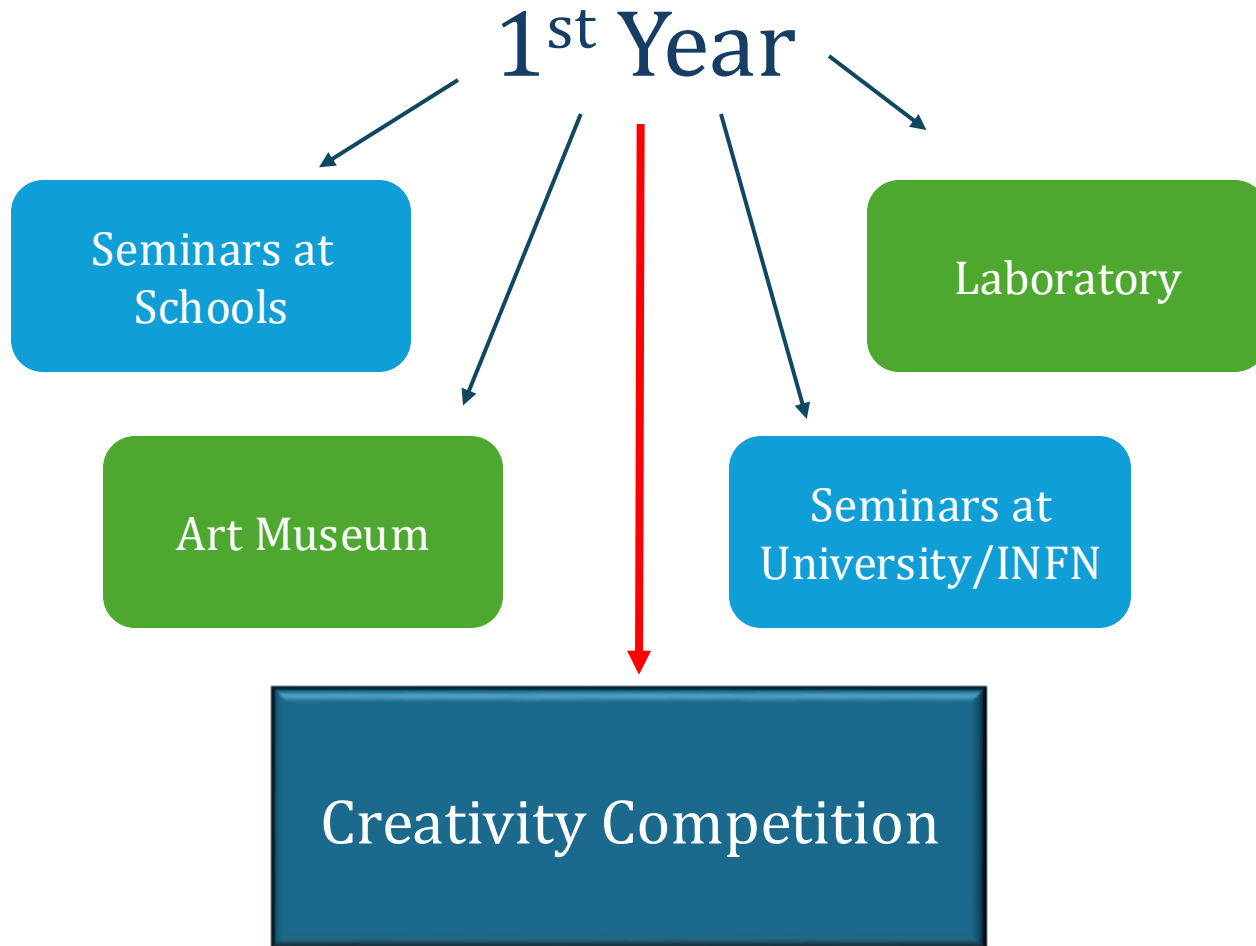
- Painting and drawing to communicate scientific ideas
- Improve observation and pattern recognition
- Enhance visual thinking
- Drama (role-play, movement etc) provides narrative alternative to expository text

Put in practice the basic concept of the STEAM: neither STEM nor arts are privileged over the other, but both are equally in play and engaging high school students with science using artistic languages, regardless of student's specific skills or level of knowledge.

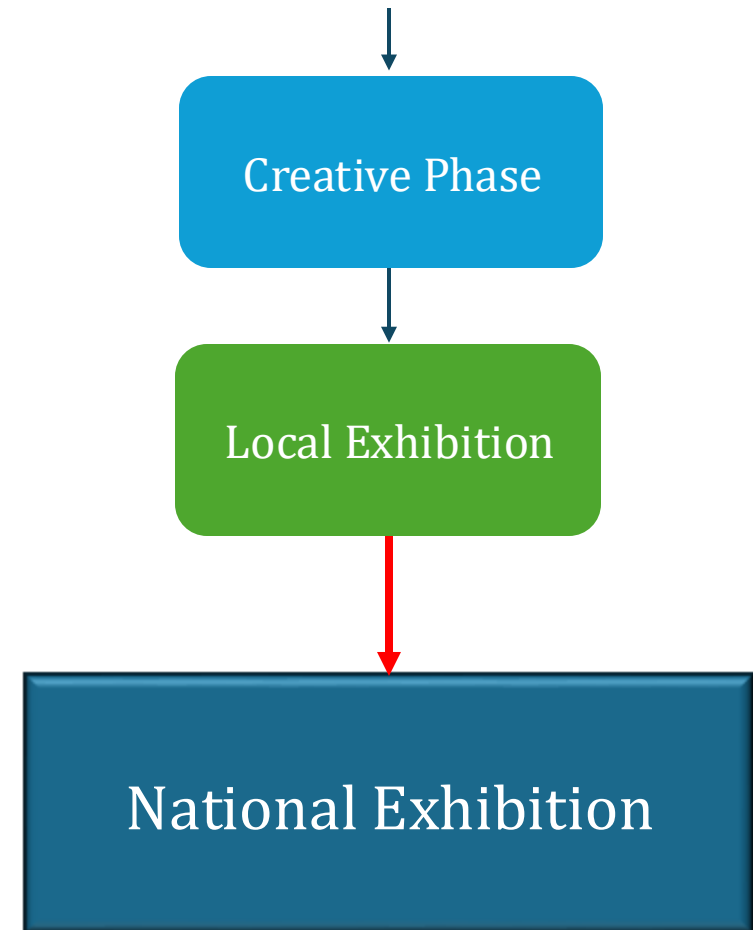


# Art&Science Work Flow

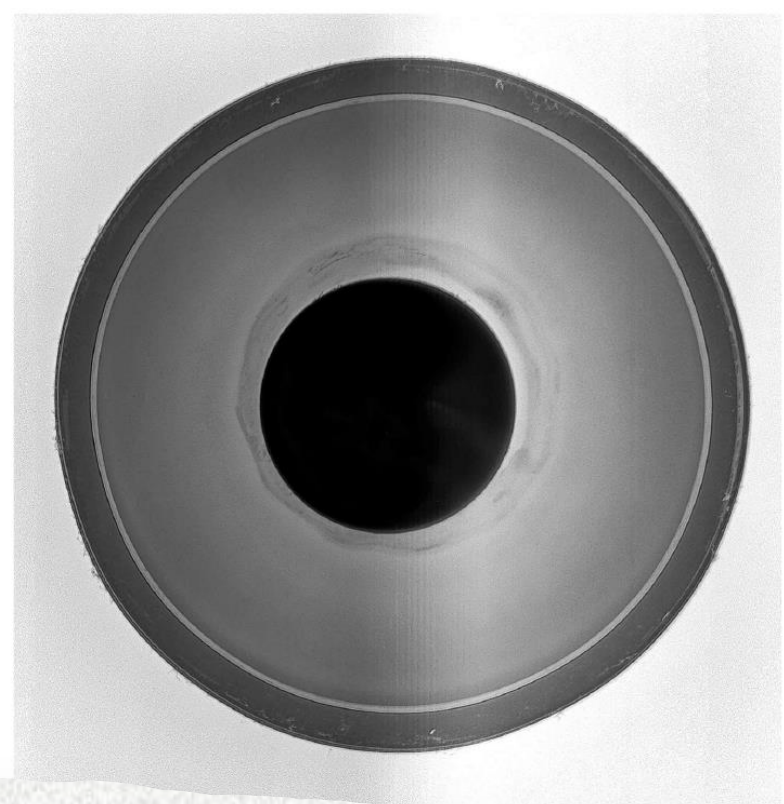
1<sup>st</sup> Year



2<sup>nd</sup> Year







# First Year

## *L'interruttore cosmico*


Emma Viganego, 2<sup>nd</sup> place *Fotografare la Scienza*

LAS PAUL KLEE-NICOLO' BARABINO

# Seminars

Seminars at  
Schools

Seminars at  
University/INFN

National seminars broadcast  
live via the StreamYard  platform

Students interact with the  
speaker by sending questions  
via the app

**V** EDIZIONE  
2024 | 2026


**Art & Science**  
across Italy

Un viaggio tra Scienza e Arte con l'Istituto Nazionale di Fisica Nucleare

12 Dicembre 2024 ore 16:00  <b>VISIBILE E INVISIBILE</b> <b>Michelangelo Mangano</b> Senior Physicist, CERN	16 Gennaio 2025 ore 16:00  <b>VIVERE IL FUTURO: SCIENZA, TECNOLOGIA E SPORT NELLA VITA DI OGNI GIORNO</b> <b>Paolo Valente</b> Dirigente di Ricerca, INFN-Roma1	31 Gennaio 2025 ore 16:00  <b>LE IMMAGINI DELL'INFINITO: QUANDO LA SCIENZA SVELA LA BELLEZZA DELL'UNIVERSO</b> <b>Sandra Savaglio</b> Docente di Astrofisica, Cosmologia e Scienza dello Spazio, Università della Calabria	13 Febbraio 2025 ore 16:00  <b>ELEMENTI DI MECCANICA QUANTISTICA</b> <b>Marco Pallavicini</b> Docente di Fisica delle Interazioni Fondamentali, Università di Genova
<b>Seminari nazionali</b>			
27 Febbraio 2025 ore 16:00  <b>LA MUSICA. UN REGALO PITAGORICO</b> <b>Francesco Scagliola</b> Docente e Coordinatore Computer Music School, Conservatory of Music "Niccolò Piccinni" - Bari	13 Marzo 2025 ore 16:00  <b>INFINITI MONDI: LA RICERCA DELLA VITA NEL COSMO</b> <b>Giovanni Covone</b> Docente di Astronomia ed Astrofisica, Università Federico II Napoli	27 Marzo 2025 ore 16:00  <b>DAI NEUTRINI ALLA MATERIA OSCURA, DALLE PIRAMIDI ALL'ADROTERAPIA</b> <b>Giuliana Galati</b> Ricercatrice in Fisica, Università degli Studi di Bari, Aldo Moro	10 Aprile 2025 ore 16:00  <b>CONTAMINAZIONI TRA ARTE E SCIENZA, TRA RICERCA E SPERIMENTAZIONE</b> <b>Giovanni Bianchi</b> Docente di Storia dell'arte contemporanea, Università di Padova

**artandscience.infn.it**  
  
PATROCINIO  
  
  
MEDIA PARTNERSHIP  
  




# Creativity Competition

3034 Participants

*Photographing  
Science*

2179 Participants

*Filming  
Science*

2075 Participants

*Telling Science:  
Diary of an  
Invisible*

1797 Participants

*Facing Artificial  
Intelligence*

# Creativity Competition: AI

## "An Invisible Seen by AI"

Task: You are invited to use AI to generate an image of an element that is invisible to the human eye (for example: an atom, a cell, an electromagnetic wave, a virus, an electron), to improve the result with a maximum of 2 interactions (prompts), and to write a short text with your “critique” of the generated result.

**Outcome: ~2000 works produced.**

A variety of themes and a good level of maturity.

Non-trivial works with thoughtful reflection on the images.

## OPEN QUESTIONS

- AI reproduces what is already available online: a blend of existing content. The risk of creative flattening and stylistic conformity is REAL.
- How can we avoid the AI's "bland uniformity"? How can we encourage the creation of new content that allows room for error, intuition, and divergent thinking?
  - *"We are the ones who tell AI what to do and how to do it."*  
Can we turn AI into a driver of creativity rather than a brake on it?

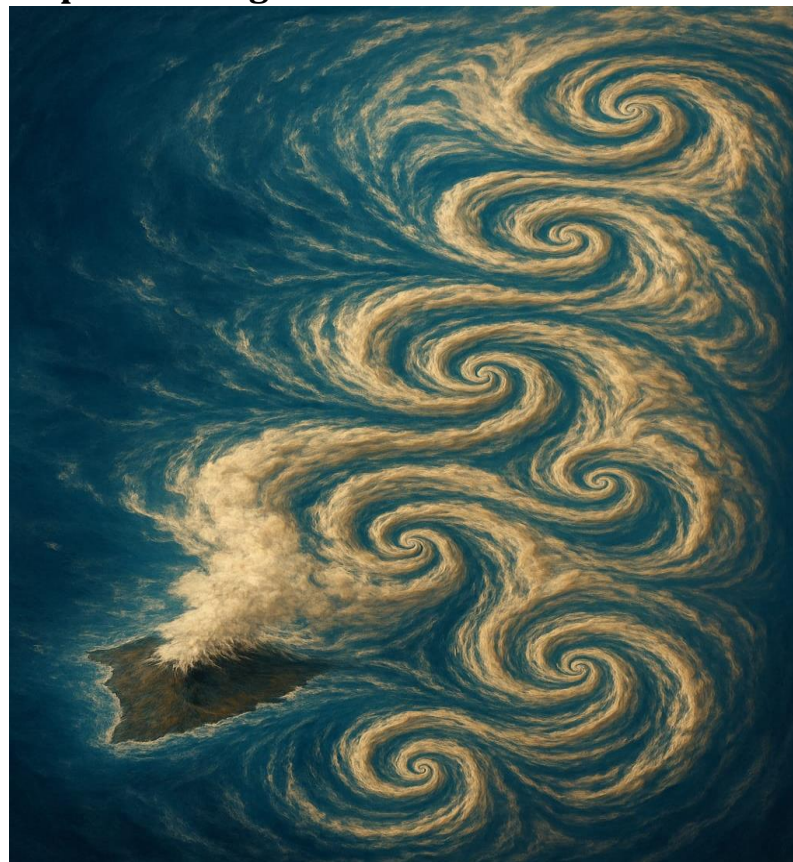




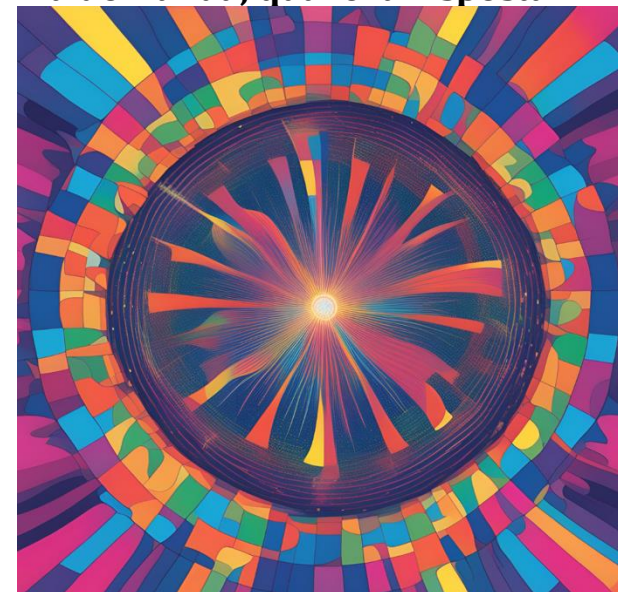
**IL VIANDANTE QUANTICO**



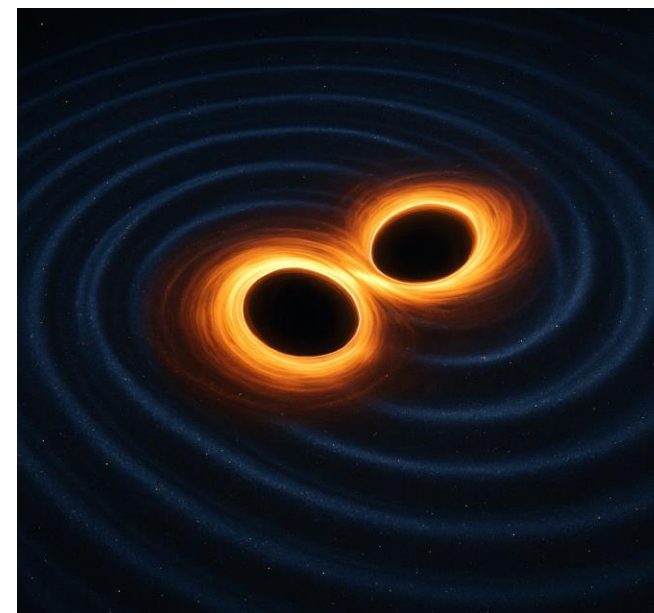
**Esilio dal Flusso Perfetto: quando il Vento  
impara a Disegnare!**



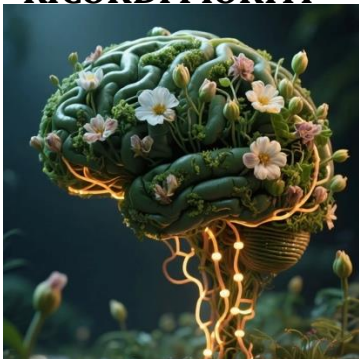
**La Particella di Dio: se l'universo è  
la domanda, qual è la risposta?**



**La traccia indelebile di un'unione**



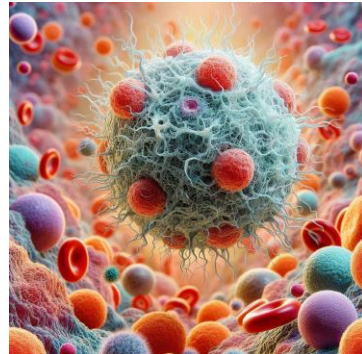
**RICORDI FIORITI**



**CyanoMars**



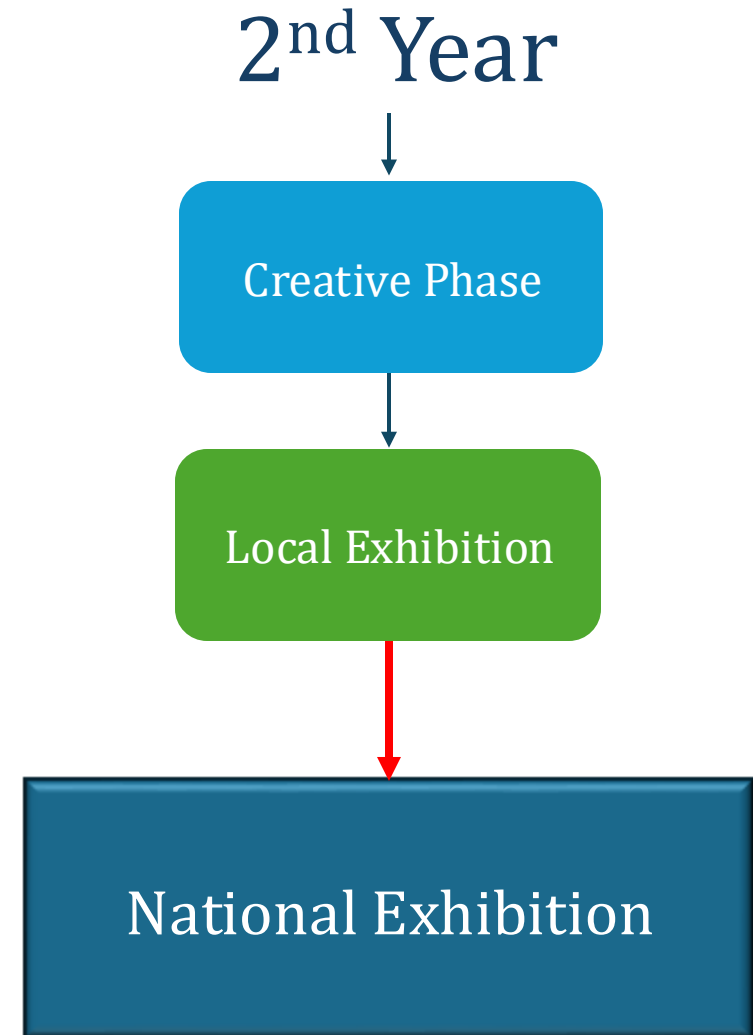
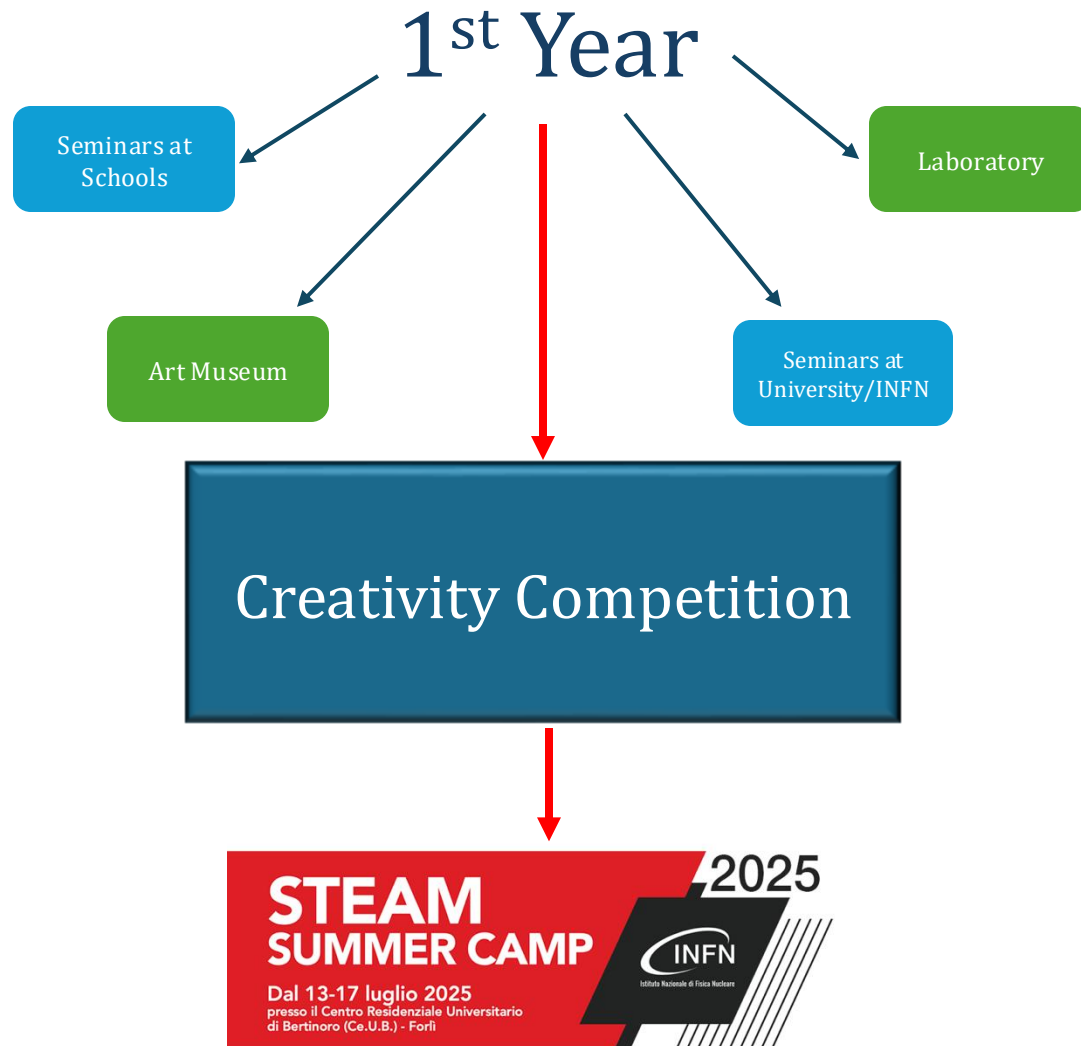
**La difesa invincibile**



**La dualità del colore vista da AI**



# Art&Science Work Flow







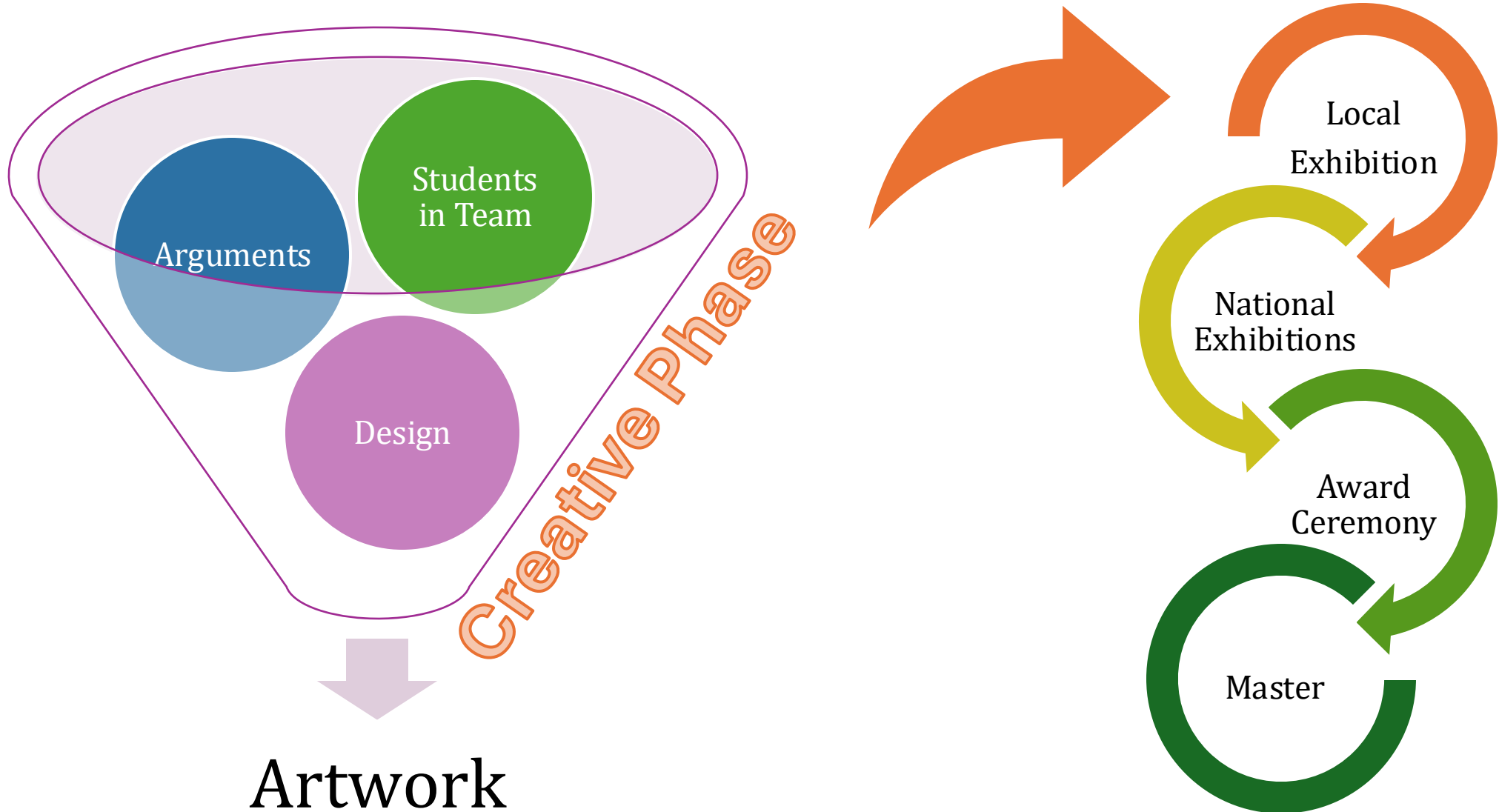
# Second Year

***Spilli e calamita: il dialogo invisibile  
della forza magnetica***

Nicolo' Ferrante, 7<sup>th</sup> place *Fotografare la Scienza*

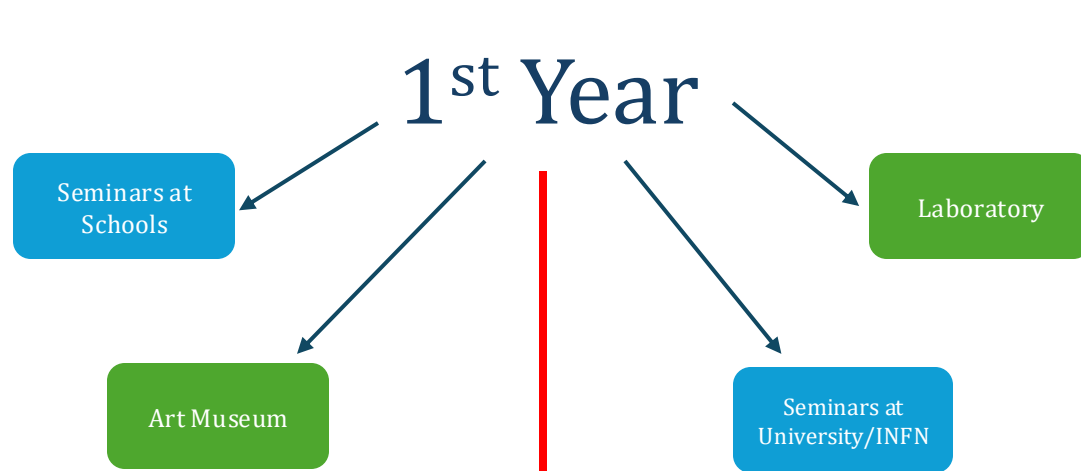
LICEO SCIENTIFICO "VALDEMARO VECCHI"

# How A&S works: Second Year





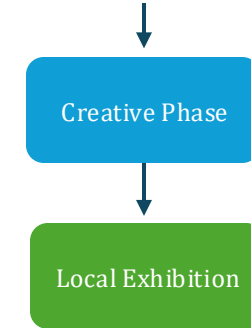
# Art&Science Work Flow



Creativity Competition



2<sup>nd</sup> Year



National Exhibition



# V Edition

November 2024

May 2026



**4370**  
**Students**



**147**  
**High School**



**19**  
**Exhibition**



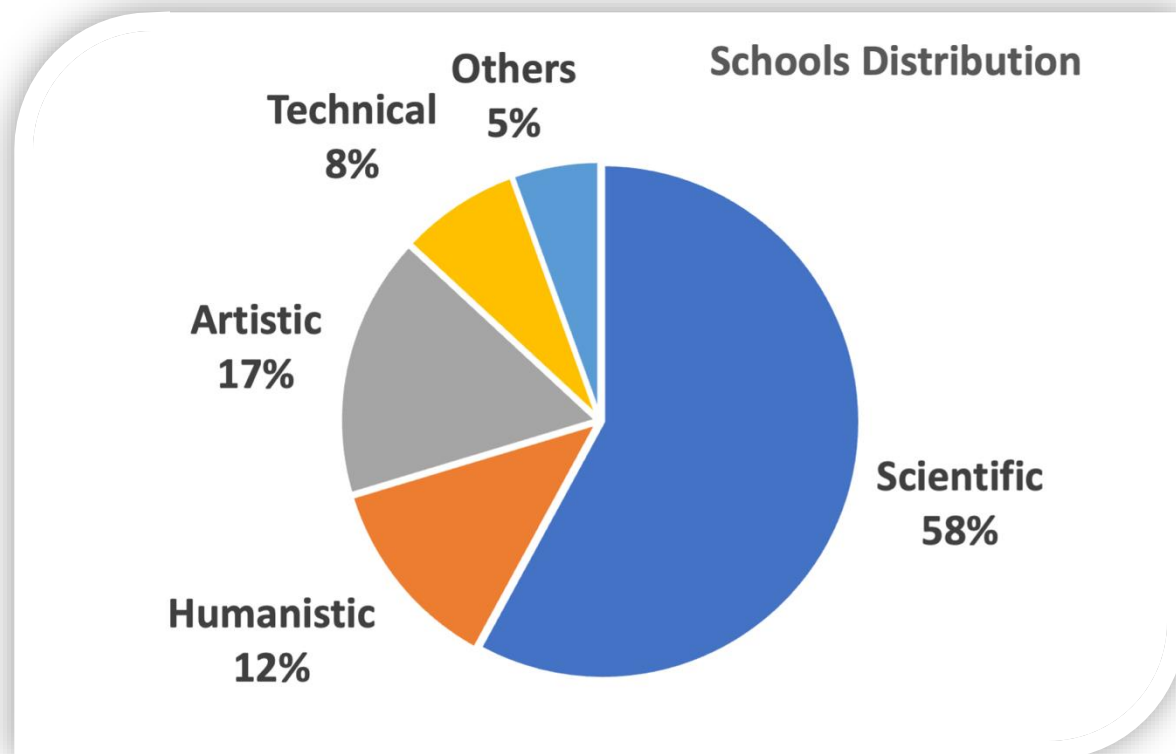
**30**  
**Masters**  
**CERN**



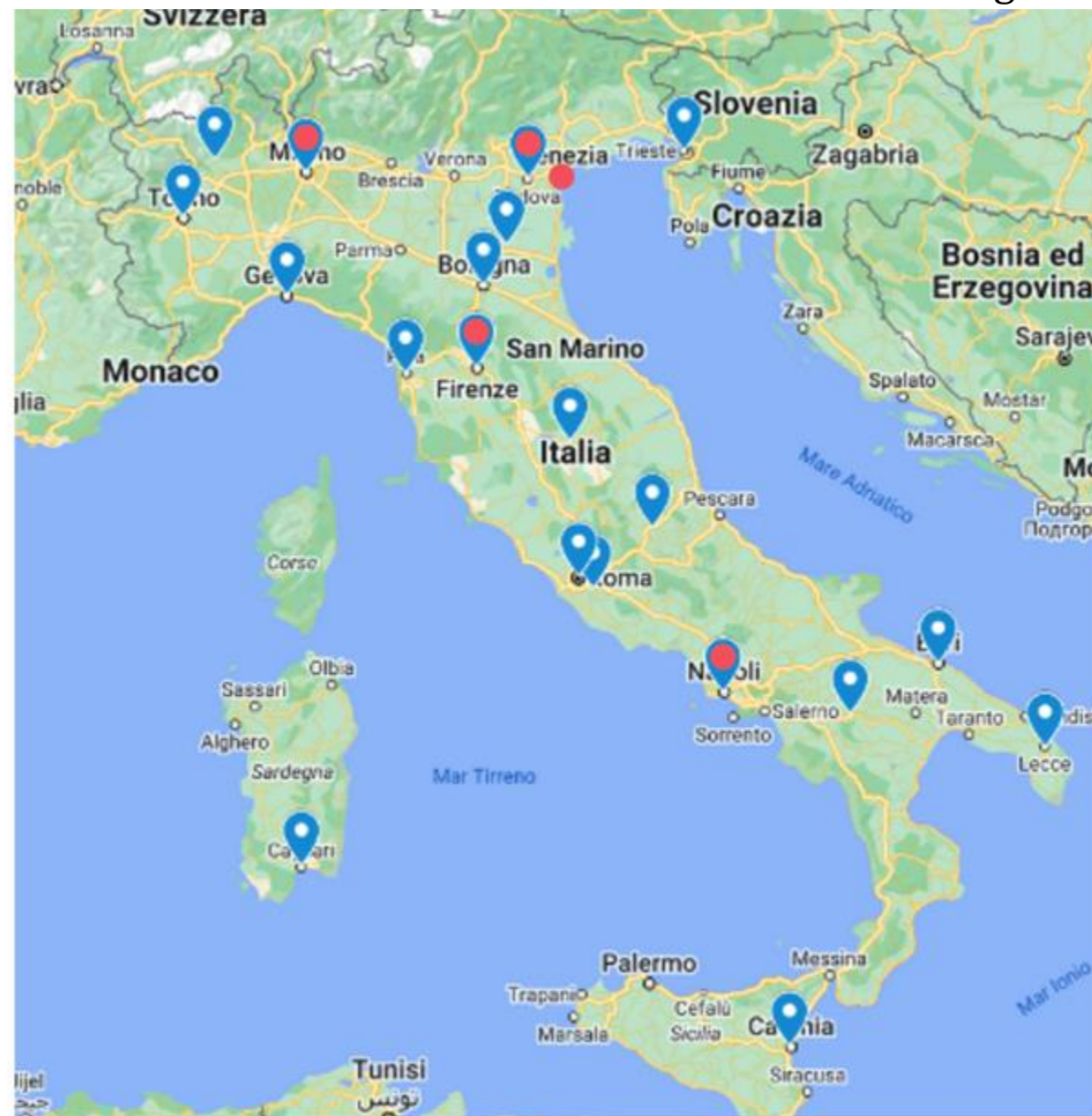
# Art and Science across Italy

V Edition

- 19 Cities
- 147 High School
- 285 Teachers
- 4370 Students



Cities: local stage

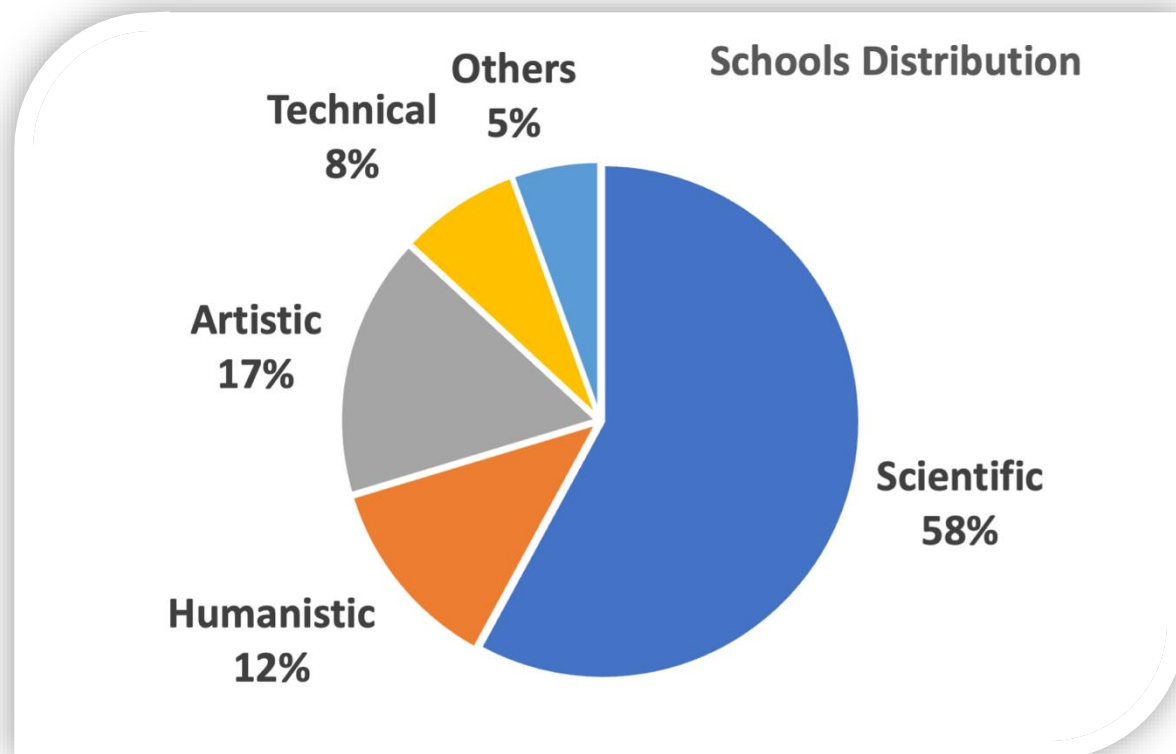


● = First edition (2016-2018)

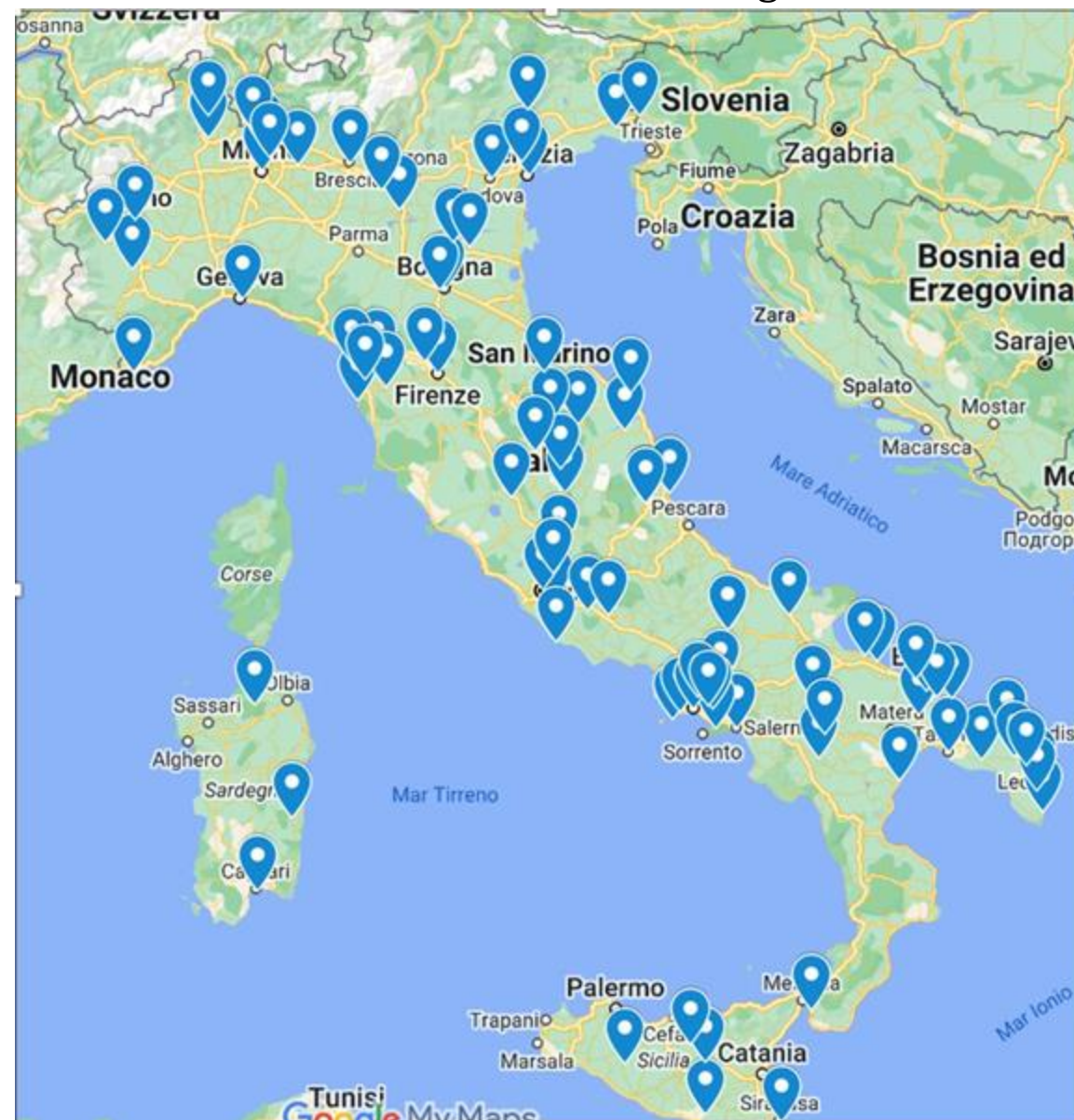
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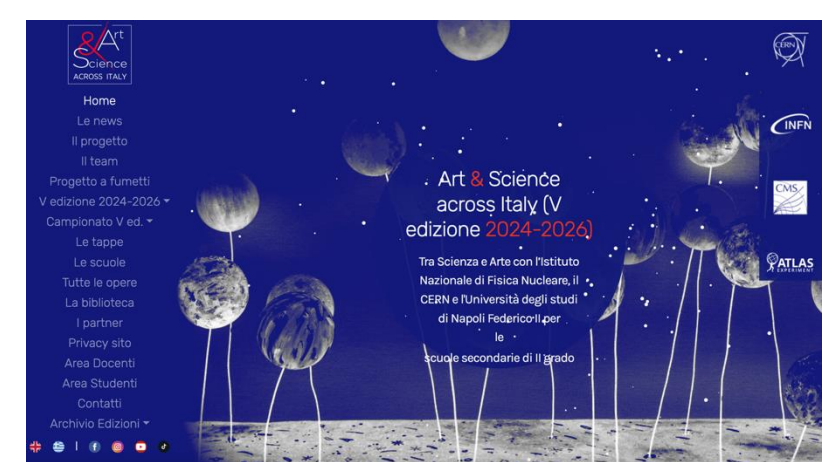
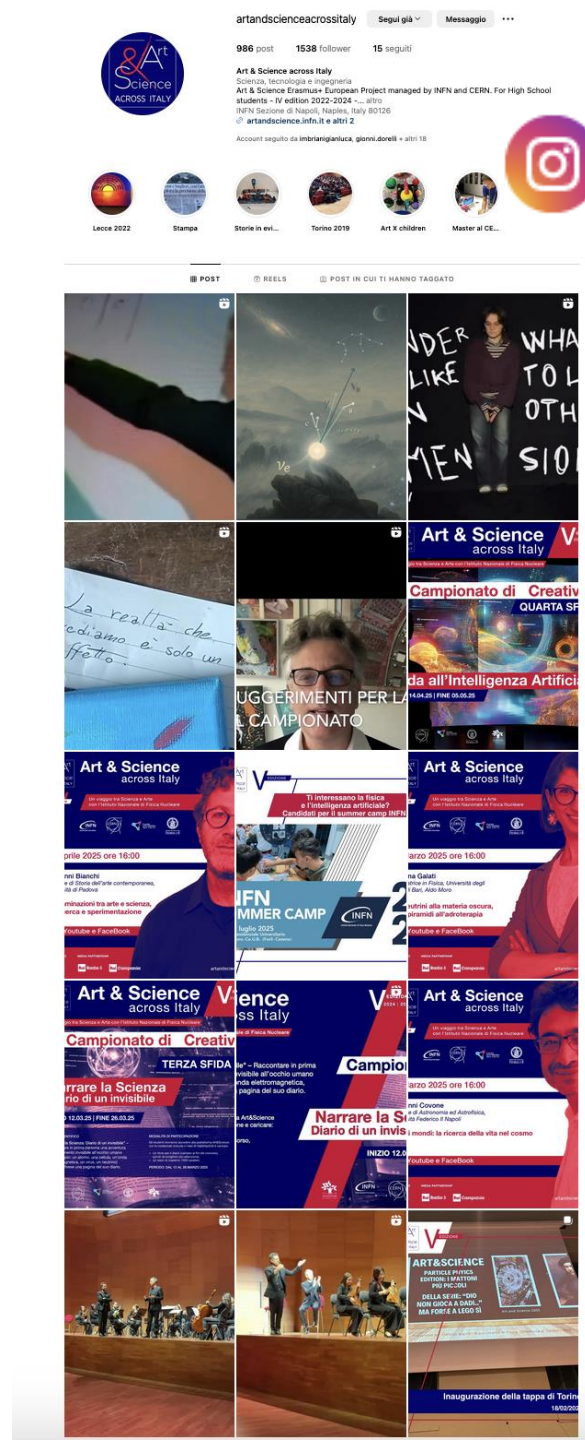
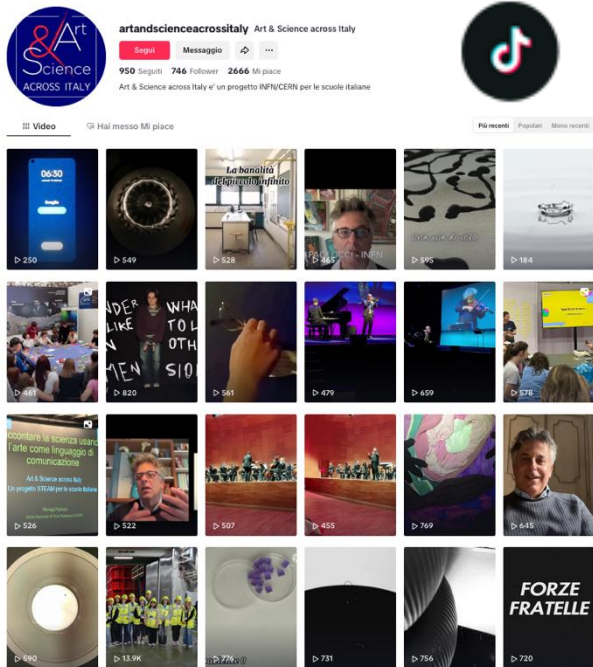
High Schools



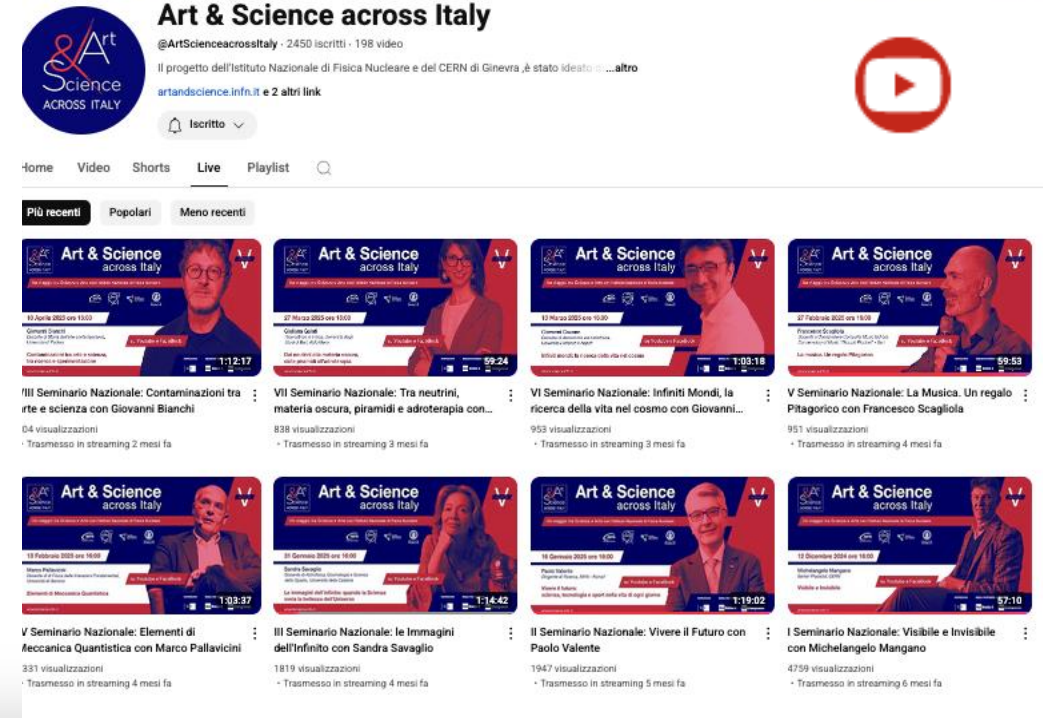


# Social Media

- Facebook: 3020 followers
- Instagram: 1540 followers
- TikTok: 746 followers
- YouTube: 2450 followers
  - ~174.000 visualizations

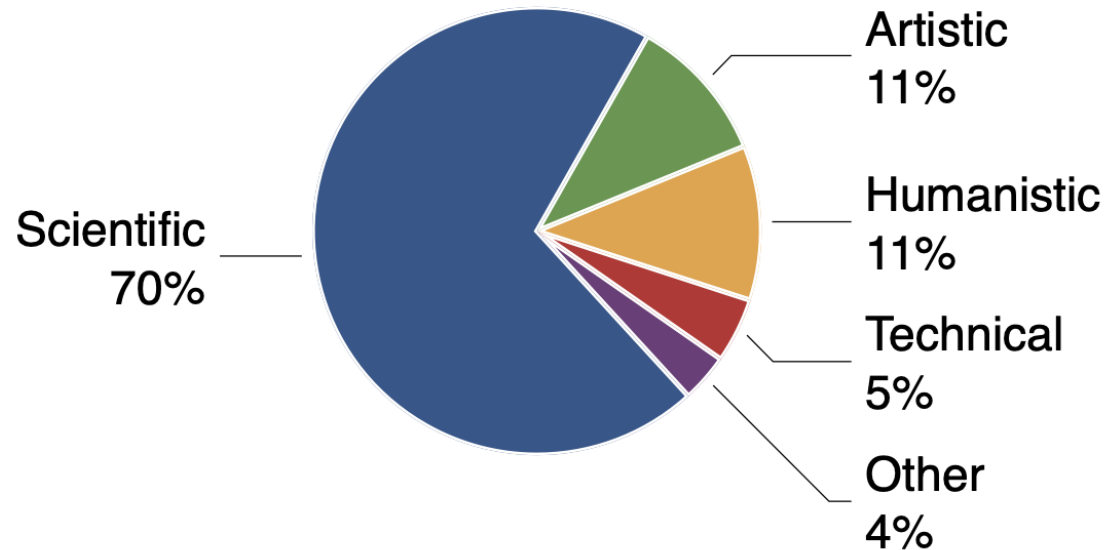


<https://artandscience.infn.it/>

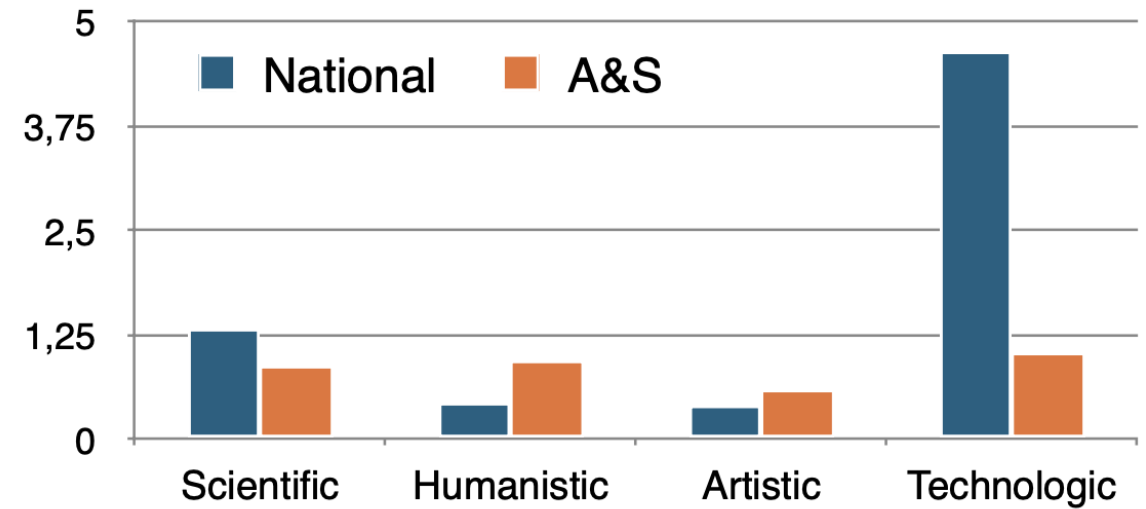


## School and gender distribution for IV Edition

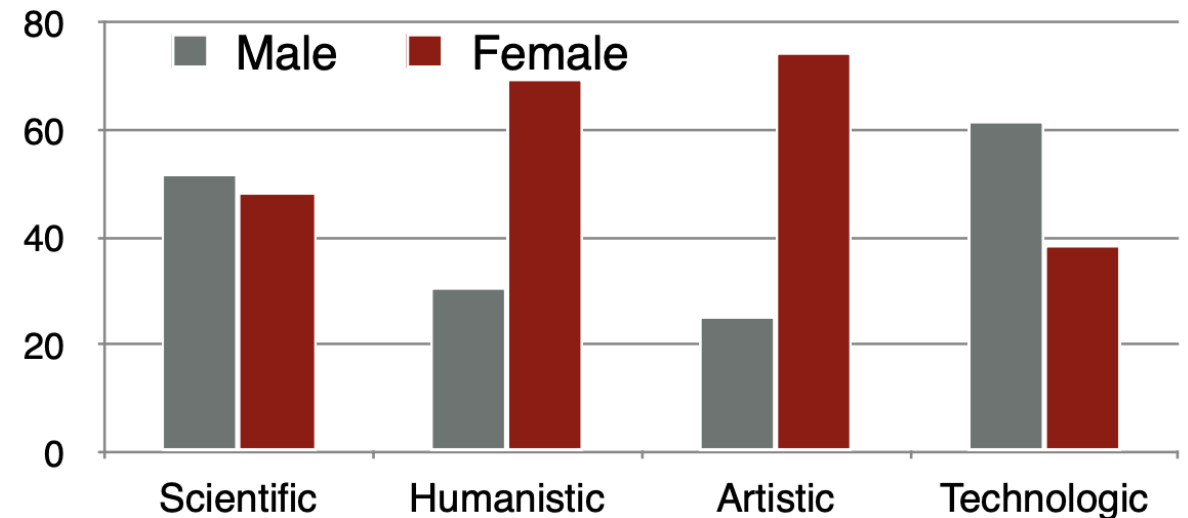
Schools distribution



Male/Female Ratio in high schools and A&S project



Gender distribution for different schools in A&S





# Conclusions and Perspective

**V Edition is going on**, the second year dedicate to artwork and exhibitions

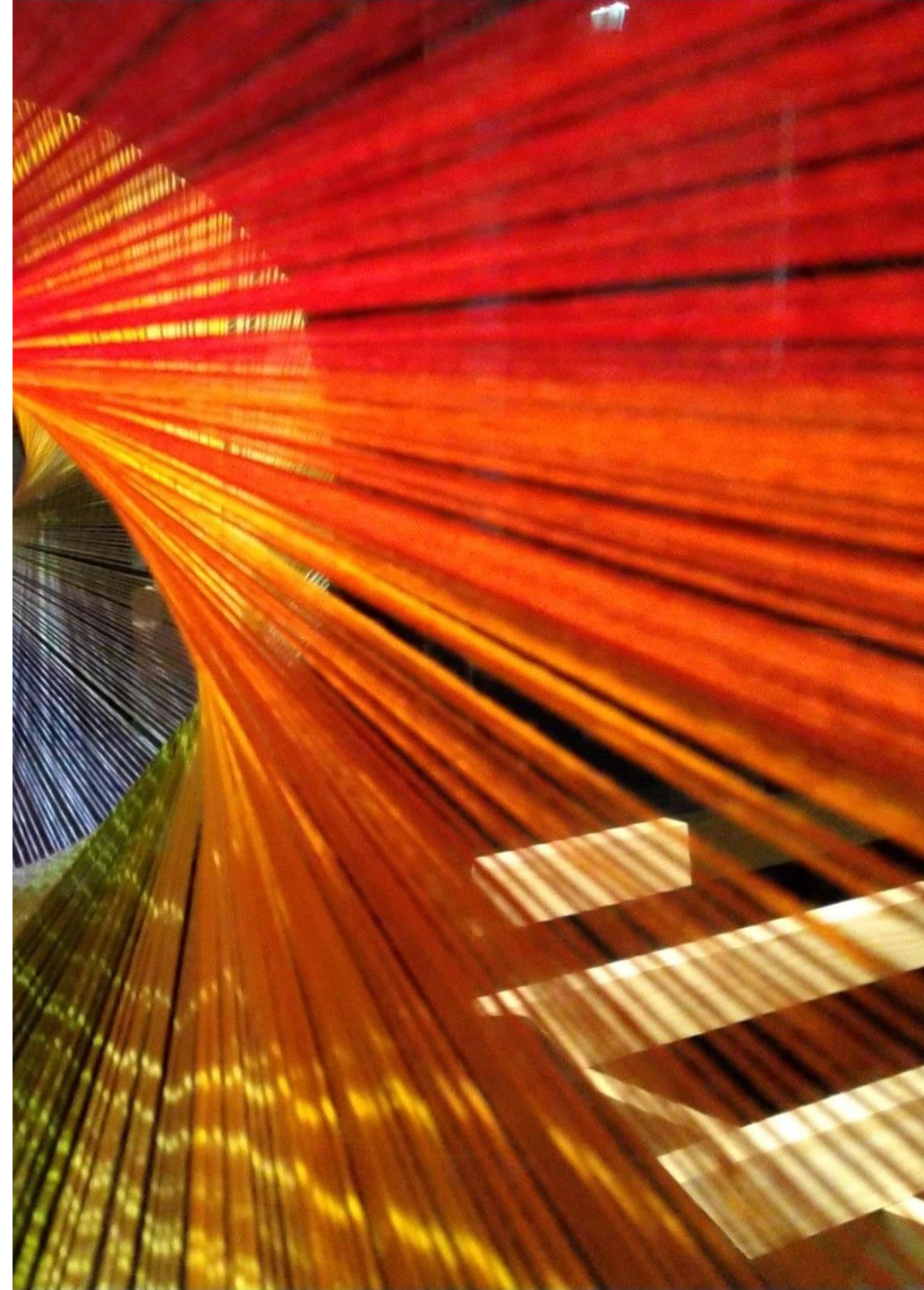
Students engaged to design and build an artwork based on Science, regardless their attitude in science/art

- In the first year the Creativity Championship encouraged the students to exercise their creativity in order to communicate science
- Remote seminars allowed for large participation

## ***Across the Black Hole***

di Massimo Buniy, Gabriele D'Andreta, Alessio Ria

1<sup>st</sup> place *Art&Science across Italy - II Edition*



# Conclusions and Perspective

**V Edition is going on**, the second year dedicate to artwork and exhibitions

Students engaged to design and build an artwork based on Science, regardless their attitude in science/art

- Effort to reach all types of high schools (large fraction from scientific-based high schools) was succesfull
- The competition, the working in group and the possibility to win a Master at CERN are clearly motivating them

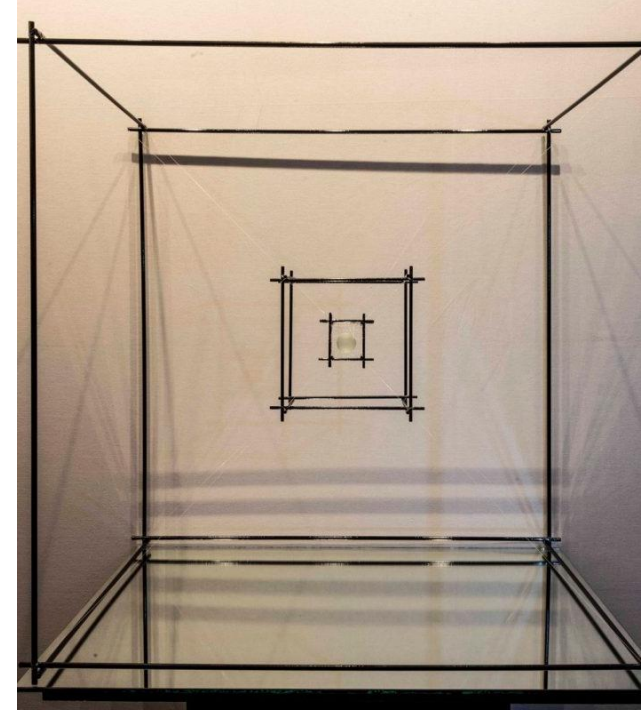
## *Ceci n'est pas un violon*

di Barbara Rondinella , Caterina Chiri , Damiano Chiarello

1<sup>st</sup> place Art&Science across Italy - III Edition







## *Art & Science across Italy*

Creativity and imagination are vital in Science and Art.

Scientists and Artists: Similar Perspectives to explore the invisible/the unknown.

<https://artandscience.infn.it/>



# Thank You

November 2024  
May 2026





*Filming Science*  
*1<sup>st</sup> Place*

*Eleonora Quattrini*  
*del Liceo Scientifico E. Fermi*  
*di Bologna presenta:*

# *CAMERA A NEBBIA*

*per Art&Science Across Italy*

Filming Science  
2<sup>nd</sup> Place

